

Realising the Export Potential of MAPs and Essential Oils

Overcoming the Trade Barriers



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Abbreviations

ADS	Agriculture Development Strategy
AEC	Agriculture Enterprise Centre
CBD	Convention on Biological Diversity
CFUG	Community Forest User Group
CITES	Convention on International Trade in Endangered Species
DFO	District Forest Office
ERI	Environmental Resources Institute
FAO	Food and Agriculture Organization
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
FSSAI	Food Safety and Standards Authority of India
FTEE	Full Time Equivalent Employment
GACP	Good Agricultural and Collection Practices
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMP	Good Manufacturing Practices
HNDP	Herbs and NTFP Development Policy
HS Code	Harmonized Commodity Description and Coding System
I/NGO	International/Non-Governmental Organization
ICIMOD	International Centre for Integrated Mountain Development
JABAN	Jadibuti Association of Nepal
MAP	Medicinal and Aromatic Plant
MAPDON	Medicinal & Aromatic Plant Database of Nepal
MoCS	Ministry of Commerce and Supplies
MPFS	Master Plan for Forestry Sector
NEHHPA	Nepal Herbs and Herbal Products Association
NTFP	Non Timber Forest Products
NTIS	National Trade Integration Strategy
PFA	Prevention of Food Adulteration
SATCM	State Administration of Traditional Chinese Medicine
SPS	Sanitary and Phytosanitary
SWOT	Strength, Weakness, Opportunity, Threat
TBT	Technical Barriers to Trade
TCM	Traditional Chinese Medicine
TEPC	Trade and Export Promotion Centre
TP	Transit Permit
UNEP	United Nations Environment Programme
UP	Uttar Pradesh
WHO	World Health Organization
WITS	World Integrated Trade Solutions

Chapter 1

Background

Nepal is one of the poorest countries in the world where majority of population still depends on agriculture and primary products from the forests. The Non-Timber Forest Products (NTFPs)—mainly the Medicinal and Aromatic Plants (MAPs)—contribute to income of thousands of Nepalese households across the country. Still studies have shown that overall loss that occurs from forest resources is US\$583 million and the opportunity loss from NTFPs and MAPs is estimated to be around US\$67.6 million (AEC/NEHHPA 2012). Therefore, expansion and enhancement in the value chains of this sector can lead to improvement of living conditions of many poor households.

Although the potential of poverty reduction by the NTFPs and MAPs was recognized by policies early on, recent policies have recognized the importance of MAPs also in terms of their export potential. Consequently, most recent policies on MAPs and essential oils, including the Trade Policy 2009, the National Trade Integration Strategy 2010, the Industrial Policy 2011, the Three Year Plans and the upcoming Agriculture Development Strategy have all recognized the importance of this sector in terms of poverty reduction as well as earning foreign exchange.

Having recognised the importance of this sector, SAWTEE had conducted a study on MAPs and essential oils in 2011. The study gave a comprehensive overview of the overall policy structure in place regarding this sector as well as problems and challenges being faced by producers and traders in this sector.

Objective of the study

The current study presents a review of the studies carried out in the past and aims at presenting the current situation of the policy structure, production as well as market condition of MAPs and essential oils and provides recommendations to enhance exports of MAPs and essential oils from Nepal. Based on the findings of previous studies and dynamic trading framework of MAPS, specific objectives of the study are as follows;

- (a) Identify the major non-tariff barriers (NTBs) restricting the trade of MAPs and essential oils in the international market
- (b) Consider/assess the hassles encountered by Nepalese exporters in and outside the country and suggest measures to overcome them.

Methodology

Existing policy structures of the country with regard to MAPs and essential oils were reviewed to understand the perceived importance of the sector and the level of support the sector has been receiving from the government.

Secondly, market conditions of the sector in terms of exports as well as imports were analysed. A few destination countries having the potential to import MAPs and essential oils from Nepal in the future were also identified.

Next, various barriers to entry in Nepal's export markets—specifically, various Sanitary and Phytosanitary (SPS) measures—were analysed. A case study of country with similar production conditions which has succeeded in utilizing its MAPs resources in improving the living conditions of its people and increasing its export performance was also studied.

Finally, a Public-Private Dialogue (PPD) was organized to present the findings of the study and receive inputs from a larger set of stakeholders. The relevant inputs received from the PPD were incorporated into the draft study and finalized.

Limitations of the study

The policy review undertaken in the study is not comprehensive. Certain policies, especially policies which are relatively out-dated, but that have been relevant in the sector over the years have been very briefly discussed. Data on the trade performance of MAPs and essential oils has been taken from two primary sources (Trade and Export Promotion Centre, and Trade Map) but their authenticity has not been tested. As the MAPs sector covers a broad range of products, only products which are important for Nepal from the trade perspective have been taken within the scope of the study.

Introduction

The Food and Agriculture Organization of the United Nations (FAO) has defined medicinal and aromatic plants (MAPs) as “botanicals that provide people with medicines—to prevent disease, maintain health or cure ailments. In one form or another, they benefit...through nutrition, toiletry, bodily care, incense and ritual healing” (Marshall 2011). Similarly, aromatic plants are those that contain aromatic essential oils that are extracted for perfumery, cosmetics, flavouring, and other human uses (Heywood N.d.).

Essential oils are concentrated aromatic oils of plant leaves, flowers, seeds, bark, roots and rinds of some fruits. They evaporate on contact with air and are also known as volatile oils. Essential oils obtained from trees are generally produced by a lengthy steam distillation process applied either to the resin, the chopped wood or the foliage and branch ends (Ciesla 1998).

Nepal’s significant variation in altitude ranging from 67 metres in south-eastern *Terai*, to the tallest mountain on earth, *Sagarmatha*, measuring 8,848 metres, gives Nepal remarkable variety in its floral resources. The country has 35 different types of forests and 118 different ecosystems where 2 percent of the world’s flowering plants and an estimated 7,000 species of higher value plants are found (Bhujju et al. 2007). Another estimate suggests that there are 5,865 flowering plants in Nepal out of which 690 species are considered to have medicinal values. Out of these, 510 are classified as wild species, 120 as naturalized species currently under cultivation, and 60 as exotic species (Malla and Shakya 1984). The Medicinal and Aromatic Plants Database of Nepal (MAPDON) has estimated that there are 1,624 medicinal plants species in Nepal, of which about 100 plants are traded annually. However, only 23 species have been traded in high volume over the years (Sharma n.d.).

Table 1.1: Important MAPs related products of Nepal

Product	Examples of plant species used
A. Raw plant products	
• Medicinal and aromatic	Kutki, chiraito, louthsallo, yarchagumba, panchaunle, pakhanved, harro, barro, amala, neem, silajit.
• Spices and flavours	Cinnamon, timur, amala, juniper, large cardamom
• Wild mushrooms and health foods	Morels, kurilo
• Dyes and tans	Padamchal, chutro, majitho, louthsallo, banjh, thingresallo, okhar
B. Products after value-added processing	
• Essential oils and extracts	Jatamansi, sugandhawal, titepati, sunpati, juniper, wintergreen, sungadhakokila, abies, deodar,

lauthsalla

C. Finished products

- **Ayurvedic preparations (medicines, tonic, nutrient supplements)** Kutki, Chiraito, Louthsallo, yarchagumba, panchaunle, pakhanved, harro, barro, amala, neem, silajit
- **Traditional medicines** Kutki, Chiraito, Louthsallo, yarchagumba, panchaunle, pakhanved, harro, barro, amala, neem, silajit
- **Incense** Jatamansi, juniper, sunpati, mahuwa
- **Herbal teas** Thyme, gurjo, gandhaino, tulsi, mint, cinnamon.
- **Personal care products (soaps, shampoo, creams)** Pangar, chiuri, ritha, amala, sikakai, naru

Source: ICIMOD 2012.

Most of Nepal's high value MAPs are found in the forests and grasslands of northern Nepal. The lower value MAPs are produced below 2,000m of altitude. According to a recent report, 85 percent of Nepal's MAPs are collected from the mid-western and far-western parts of the country (UNEP 2012). Recent estimates suggest that as many as 300,000 families are involved (directly/indirectly) in the collection of MAPs in 58 districts of Nepal, and a further 100,000 are found ready to join the group if appropriate conditions are created. More than 50 percent of the people engaged in collection, cleaning and grading of MAPs are women (MoCS 2010).

According to a report of the Environmental Resources Institute (ERI), Nepal's forestry sector provides full time jobs (in terms of Full Time Equivalent Employment) to 1,658,099 people per annum. This represents jobs for 9.23 percent of the total economically active population across the country. Of this, informal employment accounts for 91.3 percent and the remaining 8.7 percent is accounted for by formal employment. The report also states that 54.1 percent of the people employed in the forestry sector belong to the *Janajati* community, and the *Dalits* have a share of 7.15 percent. In terms of employment to female, the figure ranges from 23.06 percent among *Janajatis* to 47.03 percent among *Dalits*.

Other studies also suggest that the largest benefactors of the forestry sector in Nepal are people belonging to *Janajati* as well as *Dalit* groups. According to Kunwar et al. (2013), the highest percentage of income from the NTFPs in the far-western region went to these two communities. This is consistent with the findings of Acharya and Tamrakar (2009). Studies have also shown significant contribution of MAPs to the local economy (Edward 1996; Subedi 1997; Bhattarai 1997).

Still, there is significant potential in expanding the production and trade of MAPs as well as essential oils in the country. As was mentioned earlier, estimates show that additional income of around US\$67.6 million can be generated from NTFPs and MAPs (AEC/NEHHPA 2012). The figure could be higher if more value addition could be done in the country because, according to

Tiwari et al. (2004), of the total quantity of MAPs collected in Nepal, only about 10 percent are used to produce medicinal products or essential oils in factories and small manufacturing units in the country. In major essential oil crop trees, production can increase by as much as 60 percent (Gurung 2010).

One of the major possible advantages of expanding this sector is the distribution of resources across the country in all five development regions and in the mountains and hills of Nepal which lag behind in development indicators. Gurung (2010) found that except for *Wintergreen* trees, both Juniper and *Anthopogon* trees could be found in all five development regions. Similarly, considerable improvement in efficiency can be generated by improving the mechanism of production (by shifting from mild-steel distillation to stainless steel distillation units).¹

Therefore, promotion of MAPs and essential oils has the potential to generate significant additional employment as well as income for the country.

¹ Current production of wintergreen oil is 3,500 kg and its potential production is estimated to be 5,000 kg; similarly, for Juniper Oil, the current production is estimated to be 1,500 kg and potential production is estimated to be 2,500 kg; and for Anthopogon oil current production is estimated to be 250 kg vs. potential production of 450 kg.

Chapter 2

Policy Review

In this chapter, policies, legislation and agreements at international, regional and national levels, relevant to MAPs and essential oils, have been reviewed.

2.1 International Conventions:

2.1.1. Plant Protection Agreement for Asia and the Pacific Region:

This Agreement came into force on 2 July 1956 and has been signed/ratified/adhered to by 26 countries of the Asia-Pacific region, as well as by some European countries. Although Nepal has not ratified the Agreement, it agreed to adhere to its objectives on 12 August 1965. The Agreement's primary objective is to prevent the introduction of destructive diseases and pests into the territories of the signatory/member countries. Therefore, it prescribes various measures that regulate the importation of various plants, including their packaging and containers, from both within as well as outside the region. It also permits member countries to carry out measures like prohibition, certification, inspection, disinfection, disinfestation, quarantine, destruction or other measures as may be recommended by the Asia and Pacific Plant Protection Commission.

2.1.2 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

CITES is an international convention which aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. It was drafted as a resolution adopted in 1963 at a meeting of members of The World Conservation Union (IUCN) and was agreed by representatives of 80 countries in 1973. It became operational in 1975. Nepal ratified the Convention on 18 July 1975. The Convention enumerates plant and animal species threatened, or about to be threatened, with extinction and prescribes for strict regulation in trade of such specimen in order not to endanger their survival. It classifies threatened species into three categories as per the danger of their survival and puts forward various measures in terms of trade protection according to the said classification of the species. It also recommends penalties by national governments if Parties are found trading the enlisted species.

2.1.3 Convention on Biological Diversity

The Convention on Biological Diversity (CBD) was opened for signature on 5 June 1992 at the Rio "Earth Summit" and came into force on 29 December 1993. Nepal signed the Convention on 12 June 1992 and has been a Party to it since 23 November 1993. The objectives of the Convention are "the conservation of biological diversity, sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding".

2.2 National Policies and Legislation

Table 2.1 provides a brief summary of the various national acts, plans, policies and strategies adopted by the Government of Nepal over the years with regard to the protection, conservation and promotion of NTFPs in Nepal. Some of the most important policies and legislation have been elaborated further.

Table 2.1: Policies and legislation in relation to NTFPs in Nepal

Year	Legislation/Policy	Features
1988	Master Plan for Forestry Sector	Heavy emphasis laid on community forestry. Encouragement of local control, and separate programme on NTFPs identified with medicinal plants as a main component.
1993	Environmental Impact Assessment Guidelines for Forestry Sector	Provisions made for collecting and processing orchids, lichens, and MAPs.
1993	Forest Act	Promotion of community forestry; strict regulation of people's right to forest products.
1993/1998	Nepal Environmental Policy and Action Plan	Identification of NTFPs as a major source of income, and emphasis laid on domestication, cultivation and enterprise development.
1995	Forest Regulation	Detailed description of the restrictive procedures required to utilize NTFPs and MAPs
2000	Forestry Sector Policy	Emphasis on employment and income generation from forest-based resources
2002	National Biodiversity Strategy	Provision of a systematic approach and strategy for the promotion of NTFPs, priority in equitable benefit sharing and sustainable harvest
2002	Nepal Biodiversity Action Plan	Promotion of sustainable and equitable utilization of forest resources, emphasis on the cultivation of MAPs
2005	Herbs and NTFP Policy	Prioritization of commercialization and

		cultivation of MAPs,
2009	Trade Policy	Identification of MAPs and a high-export potential item. Strategy developed on promotion of its exports
2010	Nepal Trade Integration Strategy	Identification of MAPs and essential oil as product having high socio-economic impact and medium export potential
2013	Three Year Plan Approach Paper	Emphasis on cultivation of MAPs, provision of infrastructure and other financial facilities to farmers to promote cultivation.

2.2.1 Master Plan for Forestry Sector

Master Plan for the Forestry Sector (MPFS), adopted in 1989, was the first major document that laid emphasis on the development of NTFPs, including MAPs, in Nepal. The Plan provided a 25-year policy and planning framework in forestry in Nepal. MPFS has prioritized four long term and three medium term objectives in order to promote forest resources (including NTFPs) of the country. It has also identified six primary development programmes—one of which was the development of NTFPs with special focus on the development of MAPs through cultivation of high value herbs and grasses.² The plan envisages increased production of NTFPs through the promotion of agro-forestry, and research in MAPs.

2.2.2 Forest Act 1993 and Forest Regulations 1995

Forest Act 1993 and Forest Regulations 1995 have provisions for the licensing of NTFPs. They include provisions that ban the collection and sale of several NTFPs in Nepal. The Act has also prescribed procedures for the collection of NTFPs, one of which is the mandatory requirement to get permits for their collection from the District Forest Office (for collection from government forests) and from Community Forest User Groups (for collection from community forests). The Act/Regulation has also prescribed procedures for transit and export permits for unprocessed as well as processed NTFPs.

2.2.3 Forestry Sector Policy 2000

The Forestry Sector Policy was developed in 2000 recognizing the change in political and administrative system of Nepal since the formulation of the MPFS in 1989. It has envisaged five

² The four long-term objectives of the Master Plan for Forestry Sector were: a) to meet the people's needs for forest products on a sustained basis; b) to conserve ecosystems and genetic resources; c) to protect land against degradation and other effects of ecological imbalance; and d) to contribute to local and national economic growth. Similarly, the six primary forestry development programmes of the MPFS were: 1) Community and private forestry; 2) National and leasehold forestry; 3) Wood-based industries; 4) Medicinal and aromatic plants; 5) Soil conservation and watershed management; and 6) Conservation of ecosystems and genetic resources.

long-term, three medium-term and three short-term objectives. One of the long-term objectives of the policy is “to contribute to the growth of local and national economies and thereby to improve the quality of life of the people by managing land and forest resources, developing forest based industries, and by creating opportunities for income generation and employment.”

Additionally, it has developed strategies to increase the production of MAPs and other non-wood products in order to achieve the aforesaid objectives. It has also emphasized conducting research on MAPs to improve their productivity. The policy also emphasizes on the need to develop effective payment mechanism so that collectors of MAPs receive just income from their harvest, and facilitate the conversion of MAPs into finished products and develop effective value addition mechanism in the country.

2.2.4 Nepal Biodiversity Strategy 2002

The Nepal Biodiversity Strategy (NBS) aims at utilizing biologically diverse resources of the country, protecting its ecological processes and systems, and equitably sharing the ensuing benefits on a sustainable basis and honouring the obligations under the CBD.

NBS recognizes that MAPs have been highly exploited in Nepal and traders have been taking advantage due to asymmetric information of the local people who have not been getting their due share from the sale of MAPs. Similarly, it also recognizes that policies are weak and the institutional support inadequate in terms of commercialization, conservation and promotion of MAPs in the country. Similarly, the regulation regarding commercial collection and exports is also inadequate. It also points out that lack of documentation and monitoring and lack of research and development (R&D) in the sector have been other major problems. Consequently, the NBS highlights the following programmes related to NTFPs:

- a) Immediate measures to solve problems regarding collection, marketing, and related concerns;
- b) Cultivation of medicinal and aromatic plants and other selected NTFPs; and
- c) Development of industries based on medicinal and aromatic plants and other NTFPs.

2.2.5 Herbs and NTFP Development Policy 2004

The Herbs and NTFP Development Policy was the first national policy designed and dedicated to the development of NTFPs and MAPs in Nepal. The long-term goal of the policy is to contribute to the Nepalese economy by conserving and preserving high value herbs and NTFPs and to establish Nepal as a major source of herbs and NTFPs internationally by the year 2020. The Policy's major objectives, among others, are to encourage the commercial cultivation of valuable herbs and NTFPs; help in adding value to herbs and NTFPs through processing; help in accessing capital, developing infrastructure, acquiring technical knowledge and skills, and market management to make herbs and NTFPs commercially competitive.

2.2.6 Trade Policy 2009

The most recent Trade Policy 2009 has also identified herbs and NTFPs as a high export potential product, and therefore, has recognized the need to develop programmes for the commercialization and export enhancement of NTFPs.

Among other things, the Trade Policy has advocated for the availability of testing and certification facilities by developing testing laboratories in herb production as well as processing, and accrediting the laboratories with international standards; encouraging value addition in the production of herbs-based processed and semi-processed exportable products; conducting marketing research and promotional programmes to encourage exports of herbs and herbal products; availing capital, technology and trainings for production, grading, storage, and collection of high value herbs and essential oils required for developing commercial farms of MAPs; and encouraging production of MAPS through cooperatives by prioritizing identified pocket areas for herbs production.

2.2.7. Thirteenth Plan (2070/71-2072/73) Approach Paper

The Thirteenth Plan Approach Paper emphasizes simplification of rules and procedures and improvement in institutions for expansion of exports, promotion of organic farming, judicious use of pesticides and fertilizers, and certification of products. It aims at providing various incentives, including product insurance, and credit. The plan also mentions construction of an exhibition centre of international standards with the involvement of the private sector. Development of products along the value chains is also another important provision mentioned in the plan document.

More importantly, the Thirteenth Plan envisages enactment of the Agro Market Act that will be based on the need of marketing agricultural products and aligning the products with international standards. The Plan also places special emphasis on test and certification of MAPs for ensuring their quality. National laboratories are planned to be upgraded for achieving international accreditations on SPS certifications.

The Approach Paper emphasises harnessing maximum benefit from the marketing potential of MAPs and such benefits to be shared among the local people; special emphasis to be placed on preservation and sustainable development of forests and plant products.

In order to encourage the production of MAPs, the plan prescribes provision of subsidies, increasing the capacity of farmers, traders and experts for marketing, quality control, testing and inspection of the products. Development of village to market road, electricity and communication infrastructure as well as storage, collection and quality inspection facilities relating to MAPs have also been included in the Plan. Other local initiatives in the Plan include adopting a public-private-cooperative partnership model for utilization of MAPs and protection of forest resources. Development of special programmes like “*Ek Samudayik Ban Ek Uddyam*” is another important programme proposed in the Plan (GoN 2013).

2.2.8. Nepal Trade Integration Strategy 2010

The Nepal Trade Integration Strategy (NTIS) was developed in order to utilize trade as a driver to raise economic growth and reduce poverty in the country. It identifies 19 products and services having comparative advantage, not only in terms of enhancing export earnings, but also in bringing positive socio-economic changes by increasing the income of producers and growers and generating employment opportunities. The four major objectives of the NTIS are: a) strengthen trade negotiations to ensure proper market access; b) strengthen the technical capacity of domestic non-tariff barrier and other business environment supportive institutions; c)

strengthen the export capacity of 'inclusive' export potential goods and services; and d) strengthen GoN's capacity to coordinate and manage Trade-related Technical Assistance and Aid for Trade to implement NTIS.

Of the 12 products identified by the NTIS, MAPs has been classified as one having low export performance, medium potential in terms of world market conditions, high potential in terms of domestic supply conditions, medium in terms of overall export potential and with a possibility of high socio-economic impact.

The NTIS report mentions that the MAPs sector has a significant potential to contribute to poverty alleviation because it provides employment in remote areas where 50 percent of workers in the sector are women. Accordingly, it has recommended the following actions to be taken to enhance production and exports of MAPs and essential oils from Nepal.

On product and technology

- Support technology such as fractional distillation and steam processes for oil extraction to reduce material wastage and to lower production costs.
- Encourage private sector investment in farming, processing, and production of forestry and herbal products for better use of resources.
- Facilitate internationally recognized product certification.
- Coordinate efforts of INGOs and NGOs in supporting production development and technological improvement.
- Initiate R&D efforts towards processed products such as perfumes, food flavouring elements, and fragrances.

Market Access

- Promote use of better packaging materials such as certified aluminium containers.

Institutional and Human Resource Development

- Establish specialized institutions in the mid-western region to support economically deprived people from mountainous regions with the development of herbs and aromatic plants and plant products. In this regard, collaboration with the Jadibuti Entrepreneurs Association of Nepal (JABAN), Nepalgunj, might be appropriate.

Business Environment

- Set up a national laboratory based on public-private partnership (PPP) modality, which can issue internationally recognized product certificates.
- Review, simplify, and improve current procedures for collection, royalties, restrictions, Environmental Impact Assessment (EIA), Initial Environmental Examination (IEE), processing, customs tariffs on inputs, and exporting of herbs and herb products.
- Implement a policy and institutional system for issuing an internationally recognized organic certificate developed by the Ministry of Agriculture and Cooperatives (MoAC).
- Introduce collective patent rights to cover species of Nepali origin like Timur and others.
- Remove all district development taxes imposed on movement of herbs within Nepal.

- Strengthen bilateral relations with India. Special initiatives should be undertaken to convince the Government of India to incorporate selected herbs in the list of importable items of Department of Plant Quarantine and b) Nepal government should take initiatives to persuade India to issue open transit movement permit to Nepalese herbs from one state to another.

2.2.9. Agriculture Development Strategy (ADS) Draft Paper

The ADS recognizes Nepal's potential in increasing value addition in processing and product development of MAPs. The ADS also realizes the potential of cooperative structure in utilizing the forest resources for effective utilization and benefit sharing of MAPs. It recommends broadening of the rights of the community forest holders or expanding the leaseholder system to include other groups such as cooperatives or user groups to increase the effective utilization of forest-based resources (GoN 2012).

2.2.10. Industrial Policy

The Industrial Policy promotes the MAPs and essential oil sector mainly through three different ways. First is the provision of services, including trainings, infrastructure and availability of credit. Second is through monetary incentives for the entrepreneurs by providing tax deductions and tax holidays for a specific period of time, and third by promoting marketing of goods via standardization and branding.

1. **Provision of Services:** The Policy prescribes programmes in developing technology, market, skills and research for the development of NTFPs, and industries based on fruits and herbs; and special programmes to operate herbs and fruit processing industries through cooperatives in various parts of the country. The Policy also paves way for the creation of Business Incubation Centre, based on agricultural and non-timber forest-based raw materials and technology in collaboration with the private sector umbrella organizations.
2. **Financial Incentives:** The Policy stipulates that there will be guarantee of purchase by the government and government-owned agencies for industrial products which have at least 30 percent value addition. Since a significant potential lies in improving the value addition of the MAPs and essential oil sector, it can benefit from this provision.

According to the Policy, there shall be a rebate of 5 percent on income liable to income tax for special industries, including MAPs and essential oils. Similarly, for the purpose of deductible income tax, an amount not exceeding 10 percent of the total sales income of the industry can also be allocated for market promotion, survey and advertisement. Also, industries involved in this sector are permitted to add an additional one-third amount in the rate of depreciation referred to in the prevailing Income Tax Act while deducting depreciation.

The Policy also mentions that no excise and value added tax shall be levied if the goods produced are used for export, and further concessions will be given in duty drawback procedures, and in the import of raw materials and machinery. It also stipulates making available grant to micro enterprises and cottage and small industries as seed capital in

least-developed geographical areas. Finally, if the MAPs and essential oil establishment is a micro enterprise, it shall be extended zero income tax³ facility.

3. **Market promotion:** The Policy emphasizes expansion and strengthening of Nepal Bureau of Standards and Metrology and harmonization of Nepal Marks (NS) with international standards, and encouraging industries to use such Marks. It also provides special focus on branding of MAPs and essential oil products in order to establish the unique identity of such products (GoN 2011).

2.2.11 NTFPs/MAPs Business Promotion Strategy (2012-2016)

The NTFPs/MAPs Business Promotion Strategy was jointly launched by the Agro Enterprise Centre (AEC- FNCCI) and the Nepal Herbs and Herbal Products Association (NEHHPA). The long term vision of the Strategy is to promote NTFPs/MAPs as a national priority sector for Nepal's economic development, to be supported by lobbying for conducive policy environment, promoting private sector investment in identified areas and diversifying both national and international markets with optimum level of value addition and processing within the country.

The Strategy identifies 20 products located in 12 bio-geographic regions of Nepal for product promotion, and envisages joint efforts of the private sector, government agencies and development partners by seeking active participation of local communities/farmers/collectors in the process. The 20 products identified by the Strategy are mentioned in Table 2.2.

Table 2.2: Products for promotion identified by the Strategy

S N	Bio-geographic regions	Political boundaries – Zones/Districts	Species selected/recommen ded
1	Far and mid-western hilly and high regions	Seti: Achham, Bajhang, Bajura, Doti Bheri: Dailekh, Jajarkot, Surkhet Mahakali: Baitadi, Dadeldhura, Darchula	Lichens, Yarsagumba, Rittha
2	Western mid-hills (Rapti and Lumbini)	Rapti: Pyuthan, Rolpa, Rukum, Salyan Lumbini: Argakhanchi, Gulmi, Palpa	Lichens, Sugandhawal, Timur, Rittha, Chiuri, Sugandhakokila
3	Karnali region	Dolpa, Humla, Jumla, Kalikot, Mugu	Yarsagumba, Kutki, Jatamansi
4	Western Terai and lowlands	Dang, Banke, Bardiya, Kailali and Kanchanpur	Sarpagandha, Mentha, Chamomile, Bael
5	Trans Himalayan region	Manang, Mustang	Seabuckthorn, Jatamansi, Dhupi

³ Micro enterprise, in the Policy, is defined to be an enterprise where the investment does not exceed NRS 200,000 in fixed capital except land or house; the entrepreneur himself/herself is engaged in management; maximum of nine employees are hired; annual transaction is less than two million rupees; and if machinery is used, the electric motor or other oil engine capacity has to be less than 10 kilowatts.

6	Western mid hilly regions (Kali gandaki Corridor)	Kali-Gandaki corridor: Baglung, Myagdi, Parbat, Kaski, Lamjung, Syangja, Tanahu	Allo, Lokta, Satuwa, Dalchini, Lichens
7	Mid-Terai and lowlands	Kapilbastu, Rupandehi, Nawalparasi, Chitwan, Parsa	Kurilo, Mentha, Chamomile, Lemongrass
8	Western highlands	Gorkha, Dhading, Rasuwa, Sindhupalchowk and Dolakha	Jatamansi, Lokta, Dhupi
9	Central mid-hills	Hilly districts of Narayani, Bagmati and Janakpur zone: Bhaktapur, Dhading, Kathmandu, Kavrepalanchok, Lalitpur, Nuwakot, Rasuwa, Makwanpur, Sindhuli, Ramechhap	Dhasingre, Satuwa, Lichens
10	Eastern mid-hills	Bhojpur, Dhankuta, Terhathum, Panchthar, Ilam, Khotang, Okhaldhunga, Udaypur	Chiraito, Lichens
11	Eastern Himalayas	Solukhumbu, Sankhuwasabha and Taplejung	Kutki, Chiraito, Dhupi
12	Eastern Terai	Jhapa, Morang, Sunsari, Dhanusa, Dolakha, Mahottari, Sarlahi, Saptari, Siraha, Bara and Rautahat	Pipla, Mentha, Lemongrass

Source: AEC/NEHHPA (2012).

Chapter 3

Trade Potential of MAPs and Essential Oils

In this chapter, we analyse the world market demand for MAPs and essential oils and identify markets that have high demand of these products. We also examine the current export performance of Nepal in these products.

Medicinal and Aromatic Plants (MAPs)

In the Harmonized Commodity Description and Coding System (HS) classifications, MAPs are classified under chapter 12 (Oil Seeds and Oleaginous Fruits; Miscellaneous Grains, Seeds and Fruit; Industrial or Medicinal Plants; Straw and Fodder). Further classification into four digit and six digit HS code is given in Table 3.1.

Table 3.1: Classification of MAPs according to the HS Code

1211- Plants and parts of plants (including seeds and fruits), of a kind used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes, fresh or dried, whether or not cut, crushed or powdered

121110 – Liquorice roots

121120 – Ginseng roots

121130 – Coca leaf

121140 – Poppy straw

121190 - Other

Source: World Integrated Trade Solution (WITS), the World Bank.

World import of MAPs has risen over the past few years. During 2009-2012, world import of MAPs on average was 12.85 percent (Table 3.2). Except for poppy straw (121140), import of all other MAPs showed double digit growth. MAPs falling under the “other” category (121190), which are the ones exported the most from Nepal, also posted a steady growth of 12 percent over the last four years.

Table 3.2: World Import of MAPs (value in US\$ '000)

Product code	Product label	Imported value in 2009	Imported value in 2010	Imported value in 2011	Imported value in 2012	Average growth rate
1211	Medicinal plants	1,878,797	2,143,706	2,518,373	2,693,703	12.85
121190	Plants & parts of plants (incl seed & fruit) used in	1,651,690	1,874,087	2,148,672	2,319,575	12.02

	pharm,perf,insect etc. nes					
121120	Ginseng roots used primly in pharm,perf,insecticide,fungicide/sim purp	222,148	266,767	366,352	370,201	19.49
121140	Poppy straw, fresh or dried, whether or not cut, crushed or powdered	1,659	2,112	1,809	1,782	3.82
121130	Coca leaf, fresh or dried, whether or not cut, crushed or powdered	975	588	1,318	1,595	35.16
121110	Liquorice roots used primly in pharm,perf,insecticide,fungicid/sim purp	2,314	140	224	540	35.71

Source: Trade Map.

The United States of America (USA) is the largest importer of MAPs globally (Table 3.3). There is high demand for MAPs in Asian countries as well. In 2012, seven Asian countries were among the top 10 importers of MAPs in the world. Japan, Hong Kong and China are the largest Asian importers of MAPs, followed by Singapore, Viet Nam, Chinese Taipei and Malaysia.

Table 3.3: Top 10 importers of MAPs (value in US\$ '000)

Importers	Trade Indicators		
	Value imported in 2012	Annual growth in value (2008-2012) (%)	Share in world imports (%)
World	2,693,703	8	100
United States of America	349,324	6	13
Japan	266,883	17	9.9
Hong Kong, China	230,263	9	8.5
Germany	217,190	8	8.1
China	137,449	42	5.1
Singapore	119,905	16	4.5
Viet Nam	96,277	7	3.6
Taipei, Chinese	93,837	14	3.5
France	90,923	0	3.4
Canada	84,328	8	3.1

Source: Trade Map.

Among the top 10 importers, demand for MAPs has been growing steadily in the U.S.A, Japan, China, Chinese Taipei and Canada. Nepal has also been exporting MAPs to these countries, although in varying quantities. There is potential for Nepal to further penetrate these markets. Also, countries like Israel and Morocco have seen significant rise in their MAPs imports in recent years, making them potential destinations to look into. However, demand of MAPs in these countries is still very small to make them commercially viable destinations.

On the export front, China is the largest exporter of MAPs, contributing more than 32 percent to total world exports of the product. India and Egypt have also emerged as other important exporters. In the case of Nepal, while it has managed to increase its world exports of MPAs since 2010, its ranking among exporters has declined. Therefore, Nepal could learn from the largest exporter China and emerging exporters such as India and Egypt on improving the export performance of MAPs from the country.

Table 3.4: Important global exporters of MAPs (HS 121190)

S.N.	Exporters	Value exported in 2012 (US\$ thousand)
	World	2,197,902
1	China	722,137
2	India	196,331
3	Germany	135,704
4	Egypt	82,776
5	United States of America	76,705
6	Hong Kong, China	64,363
7	Poland	62,126
8	Singapore	55,092
9	France	52,844
10	Mexico	51,060
31	Nepal	12,537

Source: Trade Map.

MAPs classified as “Others (HS 121190)” is the major MAPs export of Nepal (Table 3.5). At the domestic level, this has been classified into two HS 8-digit codes: HS 12119010 (Yarchagumba) and HS 12119090 (Plant and parts of plants including seeds and fruits of a kind used primarily in perfumery, in pharmacy or insecticidal or similar purpose).

Table 3.5: Major exports of MAPs by Nepal according to HS Code (US\$)

HS Code	Items	2009	2010	2011	2012
121110	Liquorice roots	0	6,268	0	0
121120	Ginseng roots	39,358	0	1,491	16,239
121130	Coca Leaf	0	2,432	0	0
121190	Others	11,235,758	6,150,525	11,934,579	15,454,665

Source: Trade and Export Promotion Centre (TEPC).

Because “Others” is the most important export of Nepal in the MAPs category, further discussion will be based on the same category and other exports shall be omitted.

Table 3.6: Export of “Other” Medicinal and Aromatic Plants (HS 121190) from Nepal (US\$)

S. N	2009		2010		2011		2012	
	Country	Value	Country	Value	Country	Value	Country	Value
1	Singapore	3,089,497	India	3,904,843	India	6,889,753	China	8,155,269
2	Hong Kong	3,085,699	Singapore	1,618,655	Hong Kong	1,509,487	India	4,873,562
3	India	2,693,651	Hong Kong	223,400	China	1,496,388	Hong Kong	700,327
4	China	1,505,169	China	124,832	Singapore	818,892	Vietnam	669,967
5	U.S.A.	579,263	Germany	76,163	Vietnam	746,929	Singapore	484,517
6	UK	99,113	France	42,029	Italy	180,094	Thailand	165,067
7	Pakistan	35,735	Bangladesh	34,897	U.S.A.	64,632	Germany	78,258
8	Senegal	30,133	Japan	27,158	Germany	54,632	U.S.A.	69,490
9	Japan	28,945	Switzerland	20,816	Bangladesh	42,858	Japan	52,029
10	Bangladesh	27,151	Thailand	16,324	Japan	32,832	Belgium	40,696
	Total	11,235,758	Total	6,150,525	Total	11,934,579	Total	15,454,665

Source: TEPC.

Compared to previous years, Nepal’s export of MAPs declined dramatically in 2010. However, exports have rebounded since then. Asia is the biggest market for Nepalese MAPs. Over the years, India, China, Singapore, and Hong Kong have been the largest importers of MAPs from Nepal. However, Nepal has not been able to sustain its exports to traditional markets such as Hong Kong and Singapore. Nepal has also been regularly exporting MAPs to Germany, Japan, Pakistan, Bangladesh, USA and France. The volume of exports to the USA—the largest importer of MAPs in the world—has not been encouraging in recent years. On the other hand, Nepal has managed to diversify its exports of MAPs over the years. For example, countries lower in the order of imports earlier have been increasing their imports of MAPs from Nepal. This is a positive development indicating the diversification of Nepal's export market portfolio.

Essential Oils

Essential oils are covered in chapter 33 (Essential oils and resinoids; perfumery, cosmetic/toilet) of the HS Code list. The 4-digit and 6-digit classifications of essential oils are given in Table 3.8.

Table 3.7: HS classification of essential oils

3301 – Essential Oils; resinoids; extracted oleoresins; concentrates of essential oils, etc.
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330111 – Essential oils of bergamot (including concretes & absolutes)
330112 – Essential oils of orange (including concretes & absolutes)
330113 – Essential oils of lemon (including concretes & absolutes)
330114 – Essential oils of lime (including concretes & absolutes)
330119 – Essential oils of other citrus fruits (including concretes & absolutes)
330121 – Essential oils of geranium (including concretes & absolutes)
330122 – Essential oils of jasmine (including concretes & absolutes)
330123 – Essential oils of lavender or lavandin (including concretes & absolutes)
330124 – Essential oils of peppermint (including concretes & absolutes)
330125 – Essential oils of other mints (including concretes & absolutes)
330126 – Essential oils of vetiver (including concretes & absolutes)
330129 – Essential oils, other than those of citrus fruits
330130 – Resinoids
330190 – Others

Source: World Integrated Trade Solution (WITS), the World Bank.

Of the various types of essential oils, “essential oils, not specified elsewhere” (HS 330129) is the one which is traded the largest across the globe. This category of essential oils is also the most important export—in terms of all essential oil exports from the country—of Nepal. In the last four years, there has been a positive growth in global import of this category of essential oils, which is definitely a positive sign for Nepal’s essential oil manufacturers.

Table 3.8: World imports of various essential oils (in US\$ ‘000)

Product code	Product label	Imported value in 2009	Imported value in 2010	Imported value in 2011	Imported value in 2012
3301	World	2,493,076	3,023,152	3,688,618	3,599,516
330129	Essential oils, nes	958,879	1,300,428	1,512,080	1,364,343
330190	Others	416,840	528,656	652,078	572,355
330125	Essential oils of other mints	176,408	211,474	266,215	412,936
330112	Essential oils of orange	177,614	201,971	326,693	405,531
330113	Essential oils of lemon	336,432	334,928	393,475	318,287
330119	Essential oils of citrus fruits, nes	193,183	232,240	271,169	263,139

330124	Essential oils of peppermint	166,844	163,227	202,888	207,316
330130	Resinoids	40,655	49,155	62,854	54,792
330111	Essential oils of bergamot	3,476	359	490	456
330123	Essential oils of lavender of lavandin	1,676	296	245	150
330121	Essential oils of geranium	16,072	142	54	70
330114	Essential oils of lime	1,281	217	273	70
330122	Essential oils of jasmine	2,760	26	81	50
330126	Essential oils of vetiver	959	6	3	12

Source: Trade Map.

India is, by far, the largest exporter of essential oils in the world (Table 3.10). It exports almost 20 percent of the total world exports of essential oils. Moreover, India's export performance has also been improving over the years. In the past four years, its exports increased by an average of 22 percent, and by 38 percent in the past two years. USA, France, Brazil and China are other major exporters of essential oils. Nepal ranks 67th among all essential oils exporters in the world. Its export growth in recent years has been marginal. In fact, its exports in the past two years declined by 10 percent.

Table 3.9: Major exporters of essential oils

SN	Exporters	Value exported in 2012 (US\$ thousand)	Annual growth in value (2008-2012) (%)	Annual growth in value (2011-2012) (%)	Share in world exports (%)
	World	3,640,638	9	0	100
1	India	724,321	22	38	19.9
2	United States of America	491,878	4	4	13.5
3	France	273,697	0	-7	7.5
4	Brazil	244,879	18	-7	6.7
5	China	222,094	21	-2	6.1
6	United Kingdom	194,997	13	-9	5.4
7	Argentina	166,077	11	-7	4.6
8	Germany	147,895	8	-12	4.1
9	Indonesia	134,205	4	-17	3.7
10	Singapore	105,367	12	-13	2.9
67	Nepal	1,016	1	-10	0

Source: Trade Map.

In terms of imports, the USA is the largest importer of essential oils, followed by Europe (Table 3.11). Of the European countries, France, Germany, United Kingdom, Ireland and Switzerland are the largest importers of essential oils. Similarly, in Asia, Japan, China, India and Singapore are the large importing nations.

Table 3.10: Major importers of essential oils (US\$ '000)

Importers	Value imported in 2012	Annual growth in value (2008-2012) (%)	Annual growth in value (2011-2012) (%)	Share in world imports (%)
World	3,599,516	8	-1	100
United States of America	675,827	7	0	18.8
France	297,470	4	-14	8.3
Germany	278,003	8	8	7.7
United Kingdom	251,487	5	-4	7
Japan	235,630	12	6	6.5
China	210,299	17	29	5.8
Singapore	159,972	12	-4	4.4
Ireland	134,004	31	-8	3.7
India	120,740	18	-1	3.4
Switzerland	117,872	-5	-26	3.3

Source: Trade Map.

Among these markets, Germany, China, and Japan have grown in last two years. Taking growth of past four years however, we can see that USA, India, Ireland and Singapore are other important growing markets for essential oils. There is a need to expand the market of Nepalese essential oils in these countries since Nepal already exports essential oil to these countries in limited quantities. Demand and import of essential oils is also increasing in Indonesia, Philippines, Hong Kong and Brazil, but their total import value is not as significant as in the aforementioned countries. Nepal should explore these markets as they are expanding at a considerable pace.⁴

Table 3.11: Nepal's exports of various essential oils (in US\$)

Product code	Product name	2009	2010	2011	2012
3301	Essential oils	448,040	679,328	1,291,784	755,709
330112	Essential oils of orange	0	163,248	552,927	224,569
330113	Essential oils of lemon	107,230	212,364	30,750	10,880
330119	Essential oils of citrus fruits	76,400	34,241	12,139	13,766
330124	Essential oils of peppermint	0	925	53,969	0
330129	Essential oils other than those of citrus fruits	113,052	230,521	529,030	462,997
330130	Resinoids	202	14,122	1,107	0

Source: TEPC.

⁴ Indonesia's essential oils market grew at 29.5 percent in the past four years. Similarly, Brazil's, Philippines' and Hong Kong's grew by 5, 18.25 and 12.25 percent, respectively (based on author's calculation from Trade Map).

Encouragingly, as the TEPC data shows, exports of essential oils from Nepal have risen over the years (Table 3.12). In the last four years, exports grew by more than 33 percent. While there was a fall in exports in 2012 compared to 2011, this can partly be explained by the dramatic rise of exports (more than 90 percent in a year) between 2010 and 2011.

Essential oils not specified elsewhere (HS 330129) is the major essential oil that Nepal exports, and it comprises more than 60 percent of the total value of essential oils exported in 2012. Essential oils of orange (HS 330112) is another important export product in this sector.

Table 3.12: Major markets of essential oils for Nepal in 2012 (value in US\$)

S.N.	(For HS 3301) Country	Value	(For HS 330129) Country	Value	(For 330112) Country	Value
1	France	253,390	India	171,081	France	81,582
2	India	173,287	France	170,440	Germany	39,750
3	Germany	88,255	Belgium	40,526	U.S.A.	32,206
4	U.S.A.	53,128	Australia	24,704	U.K.	14,267
5	Belgium	46,886	U.S.A.	17,395	Canada	10,736
6	Australia	33,078	Bhutan	8,879	Czech Republic	10,399
7	U.K.	23,594	Czech Republic	7,525	Austria	9,989
8	Czech Republic	17,924	U.K.	7,486	Australia	8,374
9	Philippines	13,766	Germany	5,957	Belgium	6,360
10	Canada	11,674	Korea R	2,811	Thailand	3,583
11	Austria	9,989	South Africa	2,533	Switzerland	2,502
12	Bhutan	8,879	Japan	2,019	India	2,206
13	Thailand	4,286	Canada	938	Korea R	1,239
14	Korea R	4,050	Thailand	703	Japan	1,122
15	Japan	3,141			Brazil	254
	Total	755,709	Total	462,997	Total	224,569

Source: TEPC

France is the largest importer of essential oils from Nepal, followed by India, Germany and the USA. Countries in Europe and Asia are the most important markets for essential oils exported from Nepal. Among the 15 major export markets for Nepal, six are from Europe and six are from Asia. Canada, Australia and the USA are the other important destinations for Nepalese essential oils.

China, although one of the fastest growing markets for essential oils in the world, does not yet import essential oils from Nepal. Therefore, Nepal has considerable opportunity in expanding the exports of essential oils in existing as well as new markets.

Chapter 4

Requirements for quality and standards of MAPs and Essential Oils

Most countries follow the specifications prescribed by the World Health Organization (WHO) with regard to sustainable cultivation/collection of MAPs. International guidelines relevant to allopathic medicines have also been applied to MAPs and essential oils. Some of the pertinent regulations relevant to MAPs and essential oils are discussed below.

4.1 WHO guidelines on Good Agriculture and Collection Practices (GACP), and WHO Good Manufacturing Practices (GMP)

Adopting the WHO Guidelines on Good Agriculture and Collection Practices (GACP) and WHO Guidelines on Good Manufacturing Practices (GMP) can provide an impetus in improving the image of Nepalese MAPs and essential oils sector. These guidelines require cultivators/collectors, producers as well as distributors of MAPs and essential oils to safeguard the quality, safety and efficacy of the products while encouraging and supporting sustainable cultivation and collection of such plants.

The GACP envisages an overall sustainable production/collection of medicinal plants, their processing and post-harvest processes of the material. Range of activities related to GACP include registration of said items; methodology for identification/authentication of plants; detailed information regarding identity, quality and performance of the products; and seed verification in the case of cultivation.

The GACP also requires application of Conservation Agriculture⁵ techniques, where possible, and the document provides a detailed description of various aspects of cultivation, including site selection, ecological and social impact, climate, soil, irrigation and drainage, plant maintenance and protection. The document also envisages the use of environmentally friendly as well as sanitary measures during the time of harvest.

Regarding collection of medicinal plants, the GACP requires that permission be obtained from national bodies, and lists of plants included for protection by the CITES as well as national regulations be respected. It requires preparation of a “collection management plan”, which details on the taxonomy, distribution, phenology and environmental conditions, including topography, geology, soil, climate and vegetation at the prospective collection sites.

The GACP underlines the requirements for post-harvesting procedures, including inspection and sorting, processing, packaging and labeling, storage and transportation, quality assurance,

⁵According to the GACP, Conservation Agriculture “aims to conserve, improve and make more efficient use of natural resources through integrated management of available soil, water and biological resources combined with external inputs. It contributes to environmental conservation as well as to enhanced and sustained agricultural production.”

documentation, and ethical considerations like intellectual property rights (IPR) and sustainability.

Countries in Europe and the USA have prepared guidelines for MAPS based on GACP (EMA 2006; AHPA-AHP 2006), and therefore, compliance of GACP standards is necessary for Nepal to exploit market in these countries.

4.2 Quality Control methods for medicinal plant materials

The Quality Control (QC) methods for medicinal plant materials is concerned with setting standards for testing the quality of medicinal plants, and therefore has standardized various tests and measurement procedures. It contains provisions for methods of testing, sampling, examinations under macroscopic and microscopic conditions, materials and measurement of sieve, and procedure for, *inter alia*, determination of ash, extractable matter, water and volatile matter, volatile oils, bitterness value, tannins, swelling and foaming index, pesticide residues, microorganisms, radioactive contamination and reagents and solutions. It is, therefore, one of the most important documents for designing procedural infrastructure with regard to the construction of standards across the world.

4.3 Codex general principles of food hygiene

Three of the guidelines prepared by the Codex Alimentarius Commission are relevant to MAPs and essential oils. “The guideline for the production, processing, labelling and marketing of organically produced foods” is meant to facilitate the harmonization of requirements for organic products (including MAPs) at the international level, and provides descriptions on the organic production concept, including labelling, rules of production and preparation, substances allowed in organic production, and details on inspection and certification systems, and if necessary, import controls (Commission C. A. 1999).

The “General principles of food hygiene” is specifically designed to identify essential principles of food hygiene applicable throughout the food chain to ensure food safety. It sets out necessary conditions for producing and keeping food safe and suitable for consumption. It requires that during the production of any food item, producers control contamination from air, soil, water, feedstuffs, fertilizers, pesticides, drugs and other substances and control plant health so that it does not pose threat to human health due to consumption. For handling, storage and transport, it prescribes that food and non-food items should be segregated, and during the process of handling, storage and transport, food items should be protected from contamination by pests, or by chemical, physical or microbiological contaminants or other objectionable substances. It also mentions that the establishment, equipment, facilities and the personnel responsible for processing of food items should be suitable and should not pose any threat to the health integrity of the food items (Commission C. A. 1969).

The “Code of hygienic practice for spices and dried aromatic plants” covers the minimum requirements of hygiene for harvesting, post-harvest technology (curing, bleaching, drying, cleaning, grading, packing, transportation and storage including microbial and insect disinfection), processing establishment, processing technology (grinding, blending, freezing and freeze drying), packaging and storage of processed products.

Finally, the “Guidelines for production, processing, labeling and marketing of organically produced foods” enlists various procedures for these activities, including storage and transportation of such items. (Commission C. A. 1995). Globally, 185 countries are members of the Codex Alimentarius Commission.

4.4 Regulations related to essential oils

As has been discussed earlier, India and Europe are the two major export destinations for Nepalese essential oil. Therefore, it is important to understand the regulations in place regarding imports of essential oil in these markets. Examination of the Indian legislation reveals that there is not much non-tariff measures to regulate import of essential oils. Exports of essential oils to India by Nepal have been taking place through registered importers on the Indian side.

The European market, on the other hand, is regulated. Centre for Promotion of Imports from Developing Countries (CBI) has published a brief update on the policy requirements for the export of essential oils to the EU by developing countries. Table 4.2 summarizes the requirements to be met to export essential oils for cosmetics to the EU.

Table 4.2: Overview of the legal requirements in the EU for essential oils for cosmetics

Legislation	Source	Brief Description	Member State Implementation
Cosmetic products and ingredients	Directive 76/768/EEC	Restrictions on substances which are permitted to be included in the final product, as well as labelling requirements.	Completely harmonized as all EU member states have adopted it without deviations
	Directive 96/335/EC	Essential oils need to be registered as a permitted ingredient in cosmetic products in the cosmetic directive (INCI).	
	EC NO 1223/2009	Regulation ensures that consumers' health is protected and that they are well informed by monitoring the composition and labelling of products. It also provides for the assessment of product safety and the prohibition of animal testing. The regulation came into force after 11 July 2013.	
Packaging and packaging materials	Directive 94/62/EC	Laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances.	Completely harmonized as all EU member states have adopted it without deviations.

	Regulation (EC) 1272/2008	This legislation ensures a high level of protection of human health and the environment, and the functioning of internal market.	
Phyto-sanitary requirements	Directive 2000/29/EC	Prohibits the presence of identified harmful organisms on plants or plant products, and it provides for plant-health checks and certificates for products circulating between EU Member States and entering from other countries.	All EU Member States have implemented the Directive into their national legislation. However, the phyto-sanitary health and control procedures of the relevant Member States at the point of entry may differ.
REACH	Regulation (EC) 1907/2006	Responsibility regarding data collection and registration on potential risks of chemicals.	
CITES	Regulation (EC) 338/97	Detailed list of species of which trade is prohibited, restricted or bound to certain rules.	There may be (stricter) national requirements applicable in the EU Member State.

Source: (CBI)

The CBI report also mentions that in order to export essential oils, they need to be registered as a permitted ingredient in cosmetic products in the cosmetic directive (INCI). The report also mentions that other certification by non-legal entities like BdiH⁶, Soil Association, and Ecocert also play an important role in providing consumer confidence during the process of export.

The largest importer of essential oils in the world, the USA, does not have specific regulations related to essential oils. As per FDA regulations, essential oils are divided into two categories, namely, one having medical properties and one used purely for cosmetic purposes⁷⁸. While the USA does not have any specific regulation relating to essential oils, which are used for cosmetic purpose, if the oils are deemed to have medicinal value, then they have to be certified by the FDA as medicines.⁹

⁶ Association of German Industries and Trading Firms

⁷Cosmetics are defined as “articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body... for cleansing, beautifying, promoting attractiveness, or altering the appearance” (Federal Food, Drug, and Cosmetic Act, Sec. 201 (i)).

⁸Items’ classification as drugs or cosmetics is based on its marketing, its effect or functions on the human body, consumer perception, or the ingredients included in the item.

⁹See <http://www.fda.gov/cosmetics/guidanceregulation/lawsregulations/ucm074201.htm>.

A Case Study from China

Traditional Chinese Medicine (TCM) is a broad range of medicine practices sharing common concepts which have been developed in China and are based on a tradition of more than 2,000 years, including various forms of herbal medicine, acupuncture, massage (Tui na), exercise and dietary therapy. It encompasses a wide range of practices, including healing and treatment. In this section, we discuss the Chinese experience in relation to MAPs and essential oil.

Owing to lack of certification and standardization practices, China was unable to realize its immense potential in TCM products domestically as well as abroad till 1980s (Schroeder 2002). Later, Chinese policy makers realized the need to have strong regulations for maintaining the quality of their products to meet the requirements of export markets. Therefore, technology was imported to determine the quality of ingredients, along with legislating measures and regulations to pursue quality and standard.

In its 9th Five-Year Plan project, the Chinese government commissioned a research project on Chinese medicine technology. Titled “Standardization of the Quality of Chinese Materia Medica”, the study prescribed the system of research and determination of 71 Chinese herbal medicines. The project was the first of its kind to study the nature and extent of pesticides residue on TCM, and provided a base for Good Agricultural Practices (GAP) on TCM in China (Yang 2011). In the 10th Five Year Plan, industrialization of high value TCM development was made a priority task by the government. This has been further accentuated by the involvement of local governments and municipalities in investing in the modernization of the TCM sector. Now there are more than 100 TCM scientific research organizations with over 20,000 qualified part-time scientific researchers in China.

The Chinese government has established a separate organization called the State Administration of Traditional Chinese Medicine (SATCM) responsible for the TCM. The organization is a regulatory body responsible for formulating guidelines, policies and legal framework regarding the TCM, implementing these policies via various programmes and projects, integrating the traditional medicines with other forms of allopathic treatments as well as medicines, supervising the production and trade of the TCM, R&D and protection of intellectual property rights. The body has introduced various measures and legislations which are plant-specific as well as general in nature and therefore, has contributed immensely towards the development of TCM in China. One of the most important regulations in this regard was the “Regulations on Protection of Traditional Chinese Medicines”, which became active from 1993. The regulations aim at improving the quality of traditional Chinese medicine, protecting the legitimate rights and interests of producing enterprises, and promoting the development of traditional Chinese medicine (SATCM 2010).

Similarly, strict inspection measures have been implemented. The SATCM has designated independent organizations to conduct regular inspections, and the manufacturers found compliant receive a quality registration certificate, while product quality violations are subject to criminal sanctions. Additionally, the Chinese Drug Administration Law has put TCM on the same pedestal as the allopathic medicinal system. It requires producers to register their product under the State Food and Drug Administration (SFDA) if any new products are to be marketed (including traditional medicine). The registration requires qualification and certification of the new drug by the State administration, which further guarantees its quality. Regulation also requires that medical facilities adopt Good Manufacturing Practices (GMP) prescribed by the WHO.

As a result of these measures, the export of TCM has increased dramatically over the years and is expected to rise further in the future. An estimate done in 2012 suggests that TCM exports are expected to increase by more than 10 percent a year during the next five to 10 years (Liu 2012).

There are some good lessons that Nepal can learn from China. First, the Chinese government has recognized TCM (similar to MAPs in Nepal's case) as an important part of its culture and history. It has also realized the importance of TCM as an export commodity and has put in place regulatory framework that can maintain and ensure quality and standard of TCM products based on global SPS regulations. Therefore, the State has accorded greater importance and attention to devising regulations and mechanism which ensure quality in production as well as processing of medicinal plants and herbs. Similarly, the provisions put in place in protecting IPRs as well as the importance given to R&D in this sector are also noteworthy. Therefore, if Nepal is to successfully utilize its potential in MAPs and essential oils, it must devise a framework for enforcement of GACP and for the processing of herbs. Similarly, guidelines for GMP during extraction of essential oils should also be put in place. Strengthening the capacity and expanding the scope of the Department of Plant Resources (DPR) is essential in this regard. The DPR must be able to act as a promotion as well as enforcement agency for the GACP and GMP. Similarly, keeping in mind the long-term sustainability of the sector and cultivation of certain crops for extraction of essential oils, R&D on quality of plants and seeds of cultivable plants should also be promoted.

Source: Schroeder (2002); SATCM (2010); Yang (2011).

Chapter 5

Barriers in exports of MAPs and Essential Oils from Nepal

This section elucidates on various domestic as well as external barriers to trade (including non-tariff barriers) faced by MAPs and essential oils in their exports from Nepal. The analysis is based on existing literature on the subject as well as elaborate discussions that the research team had with relevant stakeholders.

5.1 MAPs

5.1.1 Domestic barriers

According to most stakeholders, the most important barrier in MAPs trade are domestic in nature. There are a number of problems in MAPs collection. As per the regulations, Environment Impact Assessment (EIA) and Initial Environment Examination (IEE) must be conducted for collections more than 5 metric tons (MT). Stakeholders complain that this threshold for IEE/EIA has been established on a non-discriminatory basis, and has to be done ever for herbs that are abundant. Although the rationale behind the requirement to conduct IEE/EIA is environmental protection, the process is expensive, time consuming and with bureaucratic problems. Similarly, the release permission letter that traders have to get from the District Forest Office (DFO) mandates that sale of collected items must be made within 21 days. If the sale period, due to unforeseen reasons, exceeds 21 days, another permission letter has to be acquired.

Similarly, when products are transported from their district of origin to the destination of export, forest range posts in each passing district has the authority to examine the items (Forest Regulation 21(2), 1995). This has increased the rent-seeking behavior among the officers working in those range posts. Similarly, Article 215 of the Local Self Governance Act permits District Development Committees (DDC) to levy taxes on NTFPs provided that such taxes are approved by the DDC Council. Consequently, along with indirect payments to range post officers, traders are also required to pay taxes to DDC offices. This has been a significant barrier in MAPs trade.

Another pressing problem is the lack of distinction between MAPs collected from the wild and cultivated ones. As mentioned earlier, release letter from DFO is essential for transportation of MAPs. However, because some MAPs are cultivated too, the DFO does not issue release letters for them saying that they not forest products and hence beyond their jurisdiction. When the District Agriculture Development Office is approached for the same, it denies issuing the letter stating that because the products cultivated are medicinal plants, it lies within the jurisdiction of the DFO and therefore it should issue the release letter. Therefore, many exporters are left with no choice but to transport such (cultivated) products without any release letter or official documents. That results in traders/exporters having to face hassles and make informal payments at range posts.

Another problem relates to the stipulated condition in establishing an NTFP-based enterprise. The existing regulation does not permit establishment of an NTFP-based enterprise within 3 kilometres of forest perimeter in Terai and 5 kilometres in mountains of the forest perimeter (AEC/NEHHPA 2012). Similarly, any new NTFP-based enterprise should acquire permission from three different agencies, viz. DFO, Land Survey Department and District Small and Cottage Industry Development Office (AEC/NEHHPA 2012).

5.1.2 External barriers

There are a host of trade barriers that MAPs exports from Nepal have to face. While some of the barriers are general across all importing countries, some are country specific. Therefore, in the following sections, we discuss general barriers first and then country-specific ones.

5.1.2.1 General barriers

Lack of regulation on quality

According to exporters, one of the primary reasons why Nepalese products do not find higher price in the international market is the lack of product quality¹⁰. They say that chemical properties of Nepalese MAPs are extremely good, but because cultivators and collectors do not follow proper collection, storage and transportation measures, the final export products' quality suffers immensely. Because there is no mechanism in Nepal to ensure that GAP, Good Collection Practices (GCP), and GMP are followed, proper harvesting, processing, packaging, storage and transportation procedures are not applied. This leads to loss of quality of MAPs at all stages and therefore, the final products' value is compromised.

Quality loss also occurs during checks and inspection of goods en-route, as the packages are often opened, torn and mishandled in the process. This results in product pilferage and damage to the packaging of the exported materials. Such activities cost heavily on exporters since most MAPs are of high value and loss in their quality, and even in small quantity, would incur heavy financial losses. Therefore, regulations related to quality maintenance at all stages from collection/harvesting to delivery/export are essential for Nepalese MAPs to fetch good price.

Lack of effective quality assurance mechanism

At present, the laboratory situated at DPR and the plant quarantine offices situated at various custom points of the country are responsible for assuring the quality of MAPs. Unfortunately, the quarantine posts are not equipped with qualified personnel and/or adequate equipment. As a result, exporters cannot assure the quality of products. Quality assurance certificate is necessary for customs clearance, but importing countries do not accept such certificates issued by Nepal's quarantine offices. According to stakeholders, there were cases where prevalence of fungus in some MAPs had led to consignments being cancelled leading to significant losses. Furthermore, the lack of Pest Risk Analysis (PRA) done on Nepalese plants has also hurt Nepalese MAPs exports. Because most importing countries require PRA of specified plants being imported, it is necessary for Nepal to conduct PRA of such plants. However, as of yet, Nepal hasn't conducted PRA of any of its medicinal plants.

¹⁰ Quality here would mean the efficacy, safety and purity of the medicinal and aromatic plants.

Another constraint is the absence of an accredited Organic Certification agency in Nepal. While Organic Certification is not a compulsion, certification can nevertheless increase the credibility of products and fetch higher prices. Unfortunately, Nepalese exporters have to acquire such certificates from international agencies bearing high costs. Organic Certification can cost exporters as much as NRS 700,000 per annum and therefore only large exporters are able to afford organic certification.

Lack of storage facilities

Completing the entire export process for MAPs often takes a long time (because of problems like PFA certification in India and quarantine clearance in China, which are discussed below), it is vital that proper warehousing and cold chain facilities are developed at/close to custom points from where MAPs are exported in huge quantities. Unfortunately, appropriate storage facilities are lacking both in Nepalgunj as well as the Tatopani border—the two important customs points for exports of Nepal's MAPs. During cases of protracted litigation, disputes and quality tests, the products cannot be stored well, which may deteriorate their value or render them completely useless. It also raises the idle time of transport and raises transport costs. A respondent reported that, there was an instance in the past when total consignment of *Chiraito* was lost due to the lack of proper storage facility at Tatopani customs point.

5.1.2.2 Country Specific Barriers

India

India is the most important market for Nepal's MAPs. So far, it imports the largest volume of MAPs from Nepal. Unfortunately, exporters have to face various problems while exporting their products to India. One of the most pressing problems faced by MAPs exporters is the lack of testing facility for the items included in the Prevention of Food Adulteration Rules (PFA) of India. Primarily, four items used in immediate consumption viz. cinnamon sticks and leaves (*Dal Chini*, *Tej Pat*), szechwan pepper (*timmur*), and turmeric (*besar*) are items which require certification from Indian laboratories (certified by the Indian government) to prove that the said items are fit for consumption.¹¹

However, due to the lack of such laboratory at Rupaidiha customs point, or in Lucknow, traders have to get their products' sample tested at the Sunauli border, which is about 250 kilometers away from Nepalgunj. The whole process takes 15-30 days, during which the transport carrier has to wait at the customs point, which results in significant increase in transportation costs.

Similarly, another major issue of concern is the requirement of transit permit by the Uttar Pradesh (UP) Government. Annually, each trader passing through the UP border has to acquire a transit permit from the Ministry of Forest of the UP State government, registering the quantity of products to be traded for the entire year. The process of registration requires IRS 17,000 every year. But there are significant additional indirect costs, which raise the cost of acquiring

¹¹ Although the said items do not fall under HS Code 1211, the value chain of the four products, and the actors and stakeholders involved are identical. Therefore, problems related to the four products have been included in the report.

transit permit to as much as IRS 50,000. This has driven out a large number of exporters from making direct exports to selling their products to registered exporters due to high cost of acquisition of the permit.

Another barrier in the export of Nepalese MAPs to India is the limited number of items included in Schedule VII of the Plant Quarantine Order 2003 of India. At present, around 80 items (MAPS) are annually exported from Nepal to India. However, Schedule VII contains only 17 of those 80 items and therefore, items not included in Schedule VII have to be shipped under the names of those 17 items which requires significant informal costs. Exporters also run the risk of seizure of such products because exports are being done through informal means. Therefore, there is an urgent need to expand the list in order to incorporate more plants that are currently being exported from Nepal to India (Gol 2003).

China

According to official records, more than 50 percent of Nepal's MAPs (in value terms) go to China and the country is emerging as an important market for Nepalese MAPs (TEPC 2012). According to stakeholders, Nepal's exports of MAPs to China is much larger as more than 50 percent of such exports to China goes through informal channel.

There are various reasons behind the rise in informal trade of MAPs between the two countries. First, MAPs exported to China face tariffs of 7.92 percent, along with the 1 percent export tax levied by the Government of Nepal. Hence, traders resort to informal trade to avoid these taxes. Secondly, the process to export MAPs to China is very cumbersome. The formal export process requires sending samples of MAP products for plant and food quarantine test and getting clearances from the SPS authorities from Beijing. Permission is then given by the Chinese authorities to import the specified quantity based on the acceptability of the sample. The SPS certification process takes a long time and sample tests cost around US\$100, including the courier fee.

Another problem faced by traders is that of finance. Existing modes of payment include Letters of Credit (LC), Bank Draft, Telephone Transfer (TT) and Cash against Delivery (CAD). Trade through land route to and from Tibet used to be done on a barter basis in the past, but now it is mostly carried out on the basis of TT, which is allowed up to the value of US\$30,000. Traders want more flexibility in the mode of remitting export payment through Bank Guarantee. The proposal is still under consideration at the Ministry of Finance and Nepal Rastra Bank.

Rest of the World

A particular problem in exporting MAPs to some countries is they demand that the items should be at various stages of their maturity. For instance, for cultivated items, European regulations require that items have to be at least five years old, while the requirement for the USA is 3 years.

5.2 Essential Oils

Because essential oils are extracts of MAPs, barriers to trade for essential oils are similar in nature to barriers to trade for MAPs. Policy barriers and general trade barriers applicable to

MAPs are equally relevant for essential oils. However, because the two products are different in composition and nature, there are specific barriers related to essential oils that are discussed below.

5.2.1 Production and technology

Incentivizing farmers to cultivate crops for extracting essential oil is getting difficult since there is no predictability in markets and price and there is lack of required technology. For example, rising prices of *Chamomile* and *Mentha* had led farmers in cultivating these two crops. However, due to a dramatic fall in prices of these products in the international market, they were forced to sell their products at considerably lower prices. Falling market prices coupled with the rise in labour costs led to unprofitable situation for the farmers. Similarly, during an interaction, some stakeholders mentioned that the plant seeds used for cultivation of a kind of MAPs were not indigenous to Nepal but were imported from European countries. Due to lack of proper research in the seeds, the farmers were caught unaware when the productivity of the seeds dropped significantly after the 3rd or 4th harvest.

In addition, according to the respondents, one of the primary problems for Nepalese producers of essential oils is that they can produce oils only through distillation and not through extraction. Because certain plants are sensitive to heat, distillation method can damage those plants and therefore the resulting oils' quality is compromised. Hence, extraction produces significantly better quality of essential oils. However, extraction process is extremely capital intensive; according to the respondents, it can cost up to NRS 10,000,000 and requires a high volume of medicinal plants to be profitable. Since Nepalese exporters cannot produce oils in high quantity, the applicability of such machinery gets minimized.

5.2.2 Definition and classification of products

The definition of essential oils is not clear in either the Forest Act or Forest Regulation. Therefore, DFOs classify even processed items as raw materials, which necessitates them to be quarantined as plant materials. Since essential oils are sometimes used in food, they have to undergo food quarantine as well as plant quarantine tests. Hence, there is an immediate need to clarify the definition of essential oils in order to reduce the time and cost taken in quarantine tests.

The lack of a proper customs classification of products is another hurdle for exporters.. At the 8-digit level, there is only a single classification (HS 33012900) of essential oils in Nepal. This has caused problems to Nepalese exporters in their export markets at times. There was a case in the past where a Nepali exporter had to export Chiuri Ghee as vegetable fat under HS Code 15 even though the item was to be exported for cosmetic purpose. However, in the absence of separate classification of Chiuri Ghee as a non-edible essential oil the exporter had to oblige to existing domestic regulation. This resulted in blockade of the consignment in the customs premises of the importing country for a long time. This ordeal was settled after providing necessary clarifications from the Nepalese side.

5.2.3 Lack of a GMP Framework

GAP and GCP are pertinent to MAPs, and are, therefore, *ipso facto* important for essential oils too. In addition to the two practices, GMP too has importance in case of essential oils. Since

essential oils are extremely delicate in nature, slight imbalances in their production method can lead to significant loss in quality. But, according to the respondents, workers engaged in producing essential oils in Nepalese factories are not qualified enough to follow GMP. Small but important activities like cleaning of distillation vessels, quality of storage devices, and hygiene of the factory tend to be ignored during the production process and therefore, the quality of final products are compromised. One of the important reasons for this, besides the awareness among producers, is the lack of an effective GMP Policy Framework and enforcement of GMP among producers of essential oils in the country.

5.2.4 Quality testing and certification infrastructure

Lack of fully equipped and accredited testing facilities (laboratories) in Nepal has already been mentioned in the section related to MAPs. This problem is even more acute in the case of essential oils. The testing facilities to determine the quality (including tolerance limits of restricted substances) of essential oils are not sufficiently equipped for the task. In particular, the current laboratory at the DPR is not able to conduct the Gas Chromatography Mass Spectrometry (GCMS) test for essential oils, which is demanded by importers. According to stakeholders, the technology exists at the DPR, but there is lack of personnel trained enough to use the technology. Consequently, exporters have to rely on testing facilities in importing countries where they have to incur additional costs of around US\$700, excluding the courier fee. There have also been instances where lack of awareness and capacity of personnel at customs points have led to quality loss of essential oils.

5.2.5 CITES certification

Items included in the CITES list of Nepal, including *Jatamansi*, are used in extracting essential oils. As such, certification of CITES is necessary for the export of essential oils produced from such plants. However, there have been cases where CITES certificates have been rejected because of which sales could not be made. One reason for this is perhaps the lack of effective implementation of CITES regulations in the domestic and international trade of plants, primarily from Nepal to India. An earlier study by GIZ had found that there had been limited implementation of CITES by Nepal, especially in trading with India (Jenisch and Probst 2011). Lack of effective implementation of CITES regulation, therefore, is not only harmful for long-term sustainability of MAPs collection and cultivation but also detrimental for the prospects of their as well as essential oils trade in the international market.

5.2.6 Transport and storage

Essential oils are highly flammable and therefore, courier services are hesitant to transport such materials. Only a few courier and transportation services tend to accept transporting Nepal's essential oils to foreign markets, but at higher transportation charges. Also, respondents informed that containers needed to export essential oils cannot be found in Nepal and have to be imported from India. This has also increased their costs.

In addition to the aforementioned problems, additional policy rationalization is required in the sector. For instance, at present the royalty rates are pre-determined by the Department of Forest based on the volume of resources rather than on a more pragmatic ad-valorem system. Since the price of MAPs fluctuate constantly in the international market, fixed royalty rates tend

to fail to take advantage of high prices in the international market, and when prices fall, exporters suffer. For instance, at present, the royalty for *Satuwa* is NRS 15 per kg while its market price is NRS 3,000. The royalty was determined when its price was NRS 300 per kg and therefore the government has failed to take advantage of rising *Satuwa* prices in the international market. Hence, rationalization of royalty rates is necessary. Exporters also complain about the existing export duty of NRS 1 per kg for MAPs and essential oils, claiming that sufficient taxes are already been paid as royalty and other taxes to DDCs.

Chapter 6

Conclusion and Recommendations

MAPs and essential oils are among the most important export commodities of Nepal. Besides earning foreign currency, their socio-economic impact, mostly in some of the poorest regions of the country, in terms of employment generation, is also high. However, of late, this sector has been experiencing a number of problems due to which its anticipated benefits have not been realized completely. For example, due to unsustainable collection practices, many of the important and valuable MAPs are gradually disappearing from Nepalese forests. Non-compliance of the GACP has also resulted in loss of international markets for Nepalese MAPs and essential oils. Similarly, high costs (both seen and unseen) in the domestic transportation of these products is a major perennial problem faced by people engaged in trade of this sector.. A major shortcoming regarding Nepal's inability to benefit the most from this sector has been the lack of adequate value addition, and relying more on trade of raw MAPs.

Nepal has not been able to benefit from the multitude of varieties and quality of its MAPs. On the other hand, production of essential oils is not adequate. Therefore, while it is essential to ensure the quality of its MAPs and essential oils to realize more benefits, it is also important to ensure a stable international market for these products to provide impetus to the domestic industry to utilize the country's MAPs and turn them into high value added products.

Recommendations

This study was conducted with the primary objective of understanding various barriers to trade of MAPs and essential oils from Nepal. The draft findings of the study were presented in a public-private dialogue (PPD) organized in Kathmandu and participated by many relevant stakeholders. While the list of participants and their recommendations to benefit from the MAPs and essential oils sector are provided in the Annexes, overall recommendations based on the study are provided below.

At the domestic level

- The existing regulation of conducting EIA/IEE for collection of MAPs of more than 5 tonnes under the Environment Protection Rules should be revised taking into consideration the extent of availability and nature of plants/parts of plants. Regulations should be simplified for plants/parts of plants that are available in abundance, and therefore, which would go wasted unless collected.
- The current regulation regarding the time frame of 21 days permitted for sale of MAPs should be revised. Additionally, the existing provision that prohibits establishment of NTFP-based enterprise in the 3/5 km vicinity of forests (3 kilometres for Tera and 5 kilometres for mountains) should also be reviewed.

- Ease of regulations related to internal transportation of MAPs and registration procedures is important. A single window administrative and taxation system should be encouraged providing all necessary documents and collecting multiple taxes at one point and sealing the shipments so the cost and time required for approaching different administrative units can be reduced. This would also reduce possibilities of rent-seeking at various check points. Furthermore, the royalty charged on the collection of MAPs should reflect the market prices of such MAPs.
- Regulations related to GAP/GCP and GMP must be formulated and agency to enforce such regulation must be formed/assigned. Financial support should be provided to companies complying with the practices in order to provide precedent and encouragement to other companies. Additionally, infrastructure of existing quality assurance agencies including DPR should be strengthened and accredited with international laboratories to reduce cost of testing for exporters.
- Infrastructure at customs points should also be strengthened. Storage facilities must be built in major trading points in order to preserve the quality of products whenever they have to spend some time in waiting, for example, when samples are sent for test in importing countries. Additionally, human resource capacity and infrastructure of customs points should be enhanced. Quarantine and quality inspection infrastructure at customs should be enhanced and capacity building exercise for customs officials must be conducted.
- Policy conducive to commercial farming of MAPs must be introduced. Also, roles of Department of Forests and Department of Agriculture for commercially cultivated MAPs must be clearly delineated to bring about clarity in the roles of aforesaid agencies on cultivated items. R&D on MAPs seeds selected for cultivation should be encouraged.
- Expansion of HS Codes at 8-digit level should be carried out so that the variety of MAPs and essential oils being exported can be correctly identified in the importing country.
- The provision of utilization of Geographic Information System (GIS) mentioned in the Forestry Sector Policy 2000 should be made effective to map the source and quantity of MAPs to make conservation and collection practices more scientific. In addition, efforts should be made to gradually conduct Pest Risk Analysis (PRA) of most important MAPs of Nepal.

At the external level

- Considering the large informal trade taking place between China and Nepal, the government should initiate efforts to convince the Chinese government to lower the tariffs applied on Nepalese MAPs.
- The government should also effectively negotiate with the Indian as well as Chinese governments to facilitate trade of MAPs and essential oils by equipping the relevant customs points such as Nepalgunj (for trade with India) and Tatopani (for trade with China) with adequate testing facilities.
- The Government of Nepal should convince the Government of India to expand the list of items included in Schedule VII of the Plant Quarantine Order such that items currently being exported under false names can be sent legally.
- The Government of Nepal should persuade the Government of India to respect the provisions of Indo-Nepal Peace and Friendship Treaty and remove the provision of Transit Permit applied by the Uttar Pradesh (UP) Government. Arrangement can be made to seal the consignment to ensure the consignment is not tampered. In the

immediate term, pressure should be given to simplify the procedure for acquisition of Transit Permit from the UP government.

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Annex 1: Participants' recommendations from the PPD (group-wise)

Group A: Problem: Quality Control, Certification and Organic Certification

Activities to address the problem	Time Frame	Agencies involved
1. Accreditation and strengthening of national laboratories	Start immediately	DPR, National Plant Quarantine Programme (NPQP), Ministry of Commerce and Supplies
2. Mapping the sources of origin of MAPs	Commencement in 6 months	Ministry of Forest and Soil Conservation
3. Formulate GACP, GMP	Within 2 years	DPR, Nepal Bureau of Standards and Metrology
4. Organic Farming legislation and a governing body should be created	2-3 years	DPR, Nepal Bureau of Standards and Metrology
5. Pest Risk Analysis should be carried out for the Medicinal Plants	3 plants' PRA per year should be carried out	DPR, Agriculture Research Council, Department of Agriculture

Group B: Problem: Internal Transportation and Storage

Activities to address the problem	Time Frame	Agencies involved
1. Fruits' and fruits of medicinal plants' collection and supply should be eased	By end of Ashad 2071	Ministry of Forest
2. Cold Storage service discussed in the proceedings should be provided immediately	6 months	Ministry of Finance, Ministry of Forest
4. Internal transport taxations' problem should be resolved. Once the royalty/tax has been paid, the company should be allowed to transport items freely.	Next budget	Ministry of Finance, Ministry of Forest
Other Recommendations		

5. Legislation to compensate loss during mishandling should be prepared	Immediate	Ministry of Forest
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Group C: Problem: Policy, law and coordination barriers (external and internal)

Activities to address the problem	Time Frame	Agencies involved
1. MAPs being cultivated commercially should be given the facilities prescribed for agriculture products	6 months	Ministry of Finance, Ministry of Forest, Ministry of Agriculture
2. Double Taxation during transport by local agencies should be eliminated	6 months	Ministry of Forest, Home Ministry and Ministry of Local Development
3. Procedures related to supply of items in the CITES list should be simplified	6 months	Department of Forest, Department of Plant Resources
4. Prioritize processing of <i>Sugandhakokila</i> and <i>Jhyau</i>	1 year	Ministry of Forest
5. Subsidize import of processing technology	1 year	Ministry of Forest, Ministry of Finance, Ministry of Commerce
6. Training testing officials at customs	1 year	Ministry of Forest
7. Removal of transit permit and Countervailing Duty (CVD) in India	1 year	Ministry of Commerce and Supplies, Ministry of Forest, Ministry of Foreign Affairs
8. Provision of testing facilities at all five important custom points (Kakadbhitta, Biratnagar, Bhairahawa, Birgunj, Nepalgunj)	2 years	Ministry of Forest, Ministry of Finance

Annex 2: List of participants of the PPD

S.N.	Name	Organization
1	Ajit Gupta	Federation of Nepal Chambers of Commerce and Industry
2	Anil Man Tuladhar	Herbal Entrepreneurs Association of Nepal (HEAN)
3	Anju Poudel	Jadibuti Association of Nepal (JABAN)
4	Basanta Adhikari	Himalayan Extracts
5	Bhesh Raj Oli	Nepal Herbs and Herbal Products Association (NEHHPA)
6	Bimal Nepal	Trade Export and Promotion Centre (TEPC)
7	Devendra Dhakal	Nepal Herbs and Herbal Products Association (NEHHPA)
8	Ganesh Raj Joshi	Ministry of Forest and Soil Conservation
9	Govinda Ghimire	Nepal Herbs and Herbal Products Association (NEHHPA)
10	Hima Chapagain	Herbal Products and Processing Company Limited (HPPCL)
11	Iman Singh Lama	CAN
12	Jib Raj Koirala	Ministry of Commerce and Supplies
13	Kishor Maharjan	South Asia Watch on Trade, Economics & Environment
14	Krishna P. Acharya	Ministry of Forest and Soil Conservation
15	K.P. Pandey	TRIP
16	Krishna Kandel	Abhiyan International Traders
17	Krishna Ram Amatya	Nepal Herbs and Herbal Products Association (NEHHPA)
18	Laxmi K. Shah	Ministry of Commerce and SuppliesoCS
19	Lila Adhikari	Trade Promotion Programme
20	M. Yakub Ansari	Jadibuti Association of Nepal (JABAN)
21	Manjib Shakya	Herbal Entrepreneurs Association of Nepal (HEAN)
22	Mohammad Yunus	Jadibuti Association of Nepal (JABAN)
23	Niroj Maharjan	Confederation of Nepalese Industries (CNI)
24	Pankaj Kumar Das	GIZ
25	Poonam Thapa	German National Metrology Institute (PTB)
26	Pramod	Nepal Herbs and Herbal Products Association (NEHHPA)
27	Purushottam Ojha	South Asia Watch on Trade, Economics & Environment
28	Rajan Sharma	Nepal Freight Forwarders Association (NEFFA)
29	Rakesh Agrawal	Rakesh Traders
30	Rana B. Rawal	Unique Himalayan Herbs International Private Limited
31	Sabnam Shiwakoti	Nepal Plant Quarantine Programme
32	Sandeep Baral	Everest Aroma
33	Sudarshan Subedi	Herbal Products and Processing Company Limited (HPPCL)
34	Sudikshya Subedi	Himalayan Essence Extract
35	Sushil Gyawali	Nepal Herbs and Herbal Products Association (NEHHPA)
36	Sweta Dhungel	Khaptar Aroma Industry
37	Tanka Prasad Sharma	Jadibuti Association of Nepal (JABAN)
38	Toya Narayan Gyawali	Ministry of Commerce and Supplies
39	Y.B. Thapa	Department of Plant Resources

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