

EXTRACTION OF ESSENTIAL OILS

1. INTRODUCTION

The project focuses on the extraction of essential oils in the picturesque region of Uttarakhand, India. Uttarakhand, with its diverse flora and favorable climatic conditions, offers an ideal environment for the cultivation of aromatic plants and the extraction of high-quality essential oils. This micro and small-scale investment project aims to harness the rich botanical resources of Uttarakhand and contribute to the growing demand for natural essential oils in various industries, including aromatherapy, cosmetics, and pharmaceuticals.

2. PRODUCT & ITS APPLICATION

Product Description: The primary product of this project is natural essential oils obtained through the steam distillation or cold-press extraction method. These essential oils are derived from a variety of aromatic plants native to Uttarakhand, such as lavender, rosemary, chamomile, and lemongrass, among others.

Applications: The extracted essential oils have a wide range of applications, including:

- **Aromatherapy:** Used in diffusers, massage oils, and scented candles for relaxation and stress relief.
- **Cosmetics:** Added to skincare and haircare products for their fragrance and therapeutic properties.
- **Pharmaceuticals:** Utilized in herbal medicines and remedies.
- **Food and Beverages:** Used as natural flavoring agents in culinary preparations.
- **Perfumery:** As a key ingredient in the formulation of perfumes and fragrances.
- **Cleaning Products:** Added to natural and eco-friendly cleaning solutions.

3. DESIRED QUALIFICATION FOR PROMOTER

The essential oil extraction project requires the promoter to possess botanical knowledge, technical expertise in extraction methods, and business acumen for sustainability. Compliance with regulations, resourcefulness in managing resources, and a passion for sustainability are also essential attributes.

4. INDUSTRY OUTLOOK AND TRENDS

The essential oil industry in Uttarakhand is flourishing due to global demand for natural products. Key trends include rising consumer demand, export potential to Europe and the US, tourism-linked sales, research into therapeutic properties, emphasis on sustainability, and collaborative opportunities with local farmers. Uttarakhand's biodiversity and eco-conscious ethos make it conducive for essential oil production. This project aims to leverage these trends for economic growth while promoting sustainable extraction practices, contributing to Uttarakhand's economy and preserving its rich flora.

The global essential oils market is expected to grow from USD 21.79 billion in 2022 to USD 40.12 billion by 2030, growing at a CAGR of 7.9%. This increase is due to rising demand from industries like food and beverage, personal care and cosmetics, and aromatherapy. The essential oil market in India is expected to grow at a CAGR of 6.62% from 2024-2032, reaching US\$ 306.4 million by 2032.

Some ingredients that are in high demand include: Citrus fruits, Eucalyptus, Lavender, Rosemary, Tea tree. In 2020, demand for essential oils from citrus fruits like lemon or orange dominated the market, followed by lavender in second place. The target audience for aromatherapy is often women, but it is also growing significantly among millennials.

5. MARKET POTENTIAL AND MARKETING ISSUES; IF ANY

The essential oil market in Uttarakhand shows strong potential, driven by rising consumer demand for natural products. Factors such as health trends, usage in cosmetic and pharmaceutical industries, demand for organic products, and tourism-driven sales contribute to this potential. Effective marketing strategies like branding, online presence, certifications, and collaborations can capitalize on this market. However, challenges include competition requiring differentiation, and ensuring regulatory compliance, which is crucial for market acceptance. Overall, Uttarakhand's unique biodiversity presents opportunities for sustainable essential oil production and market growth. Some of existing players in similar business are:

- Rare Essential Oils Private Limited: 197, Asalatpur, Farukh Nagar, Loni, Ghaziabad - 201003, Uttar Pradesh, India
- Sivaroma Naturals Private Limited: B- 99, Industrial Area, Phase -II, Noida - 201305, Gautam Buddha Nagar, Uttar Pradesh, India
- James Wild Herbs: 1399, Ground Floor, Chowk, Tilak Bazar, New Delhi - 110006, Delhi, India
- Gyan Flavours Export: HCMR Complex, Main Wazirabad Road, Gokulpur, New Delhi - 110094, Delhi, India

6. RAW MATERIAL REQUIREMENTS

Essential oil extraction in Uttarakhand relies on native aromatic plants like lavender, rosemary, chamomile, lemongrass, peppermint, eucalyptus, and mint. These plants offer various therapeutic benefits and are cultivated using suitable land, soil, and climate conditions. Infrastructure for planting, irrigation, and harvesting is essential to maintain a steady supply of raw materials for extraction. Some of suppliers for raw materials are:

- The Hill Herbs India: Bhagoti Masi Road Ramnagar, Chaukhutia, Almora-263655, Uttarakhand, India
- Teacurry (A Brand Of Grey Mantra Solutions): Plot No 7/10, Adrash Compound, Site - li, Loni Road, Mohan Nagar, Ghaziabad - 201007, Uttar Pradesh, India
- Biologique Foods LLP: 81-A, Near Fastway Office, B/S Basant Avenue Market, White Avenue, Amritsar-143001, Punjab, India
- Mediaroma Agro Producer Company Limited: Khasra No. 898, Bahora, Patiyali ,kasganj u p, Patiyali, Etah-207243, Uttar Pradesh, India

7. MANUFACTURING PROCESS

The essential oil manufacturing process in Uttarakhand involves cultivation, harvesting, distillation, quality control, packaging, and distribution. Aromatic plants are organically cultivated in Uttarakhand's favorable climate. Harvesting is done at the optimal growth stage, usually in the early morning. Distillation methods include steam distillation and cold-press extraction for different plant materials. Quality control tests ensure purity and therapeutic properties, followed by careful packaging in dark glass bottles. Distribution channels include local markets, e-commerce platforms, spas, and wellness centers. Compliance with regulatory standards is maintained throughout the process to ensure product safety and efficacy. Uttarakhand's natural advantages contribute to the production of high-quality essential oils.

The Bureau of Indian Standards (BIS) has a standard for essential oil-bearing aromatic plants. The standard is IS 6774, and it is part of the Natural and Synthetic Fragrance Materials (PCD 18) section.

The BIS also has other standards for essential oils, including:

- IS 326-6 (2005): This standard is identical to ISO 875:1999, which is about the evaluation of miscibility in ethanol.
- IS 17809: 2022: This standard is about the characterization of essential oils.
- PCD 18(14443) C 06 October 2021: This draft standard is about determining the chiral purity of essential oils.

8. MANPOWER REQUIREMENT

Sr. No	Particulars	No.	No of month in year	Wages/Salaries per month (Rs. In Lakhs)	Annual Expense (Rs. In Lakhs)
1	Self-employed	1	-	-	-
2	Skilled Person	2	12	0.25	6
3	Semi-skilled Person	1	12	0.2	2.4
4	Unskilled	1	12	0.12	1.44
	Total				9.84

9. IMPLEMENTATION SCHEDULE

Sr. No.	Activity	Time Required (in months)
1	Acquisition of premises	1
2	Construction (if applicable)	1.5
3	Procurement & installation of Plant & Machinery	2.5
4	Arrangement of Finance	1
5	Recruitment of required manpower	1
6	Total time required (some activities shall run concurrently)	3

10. COST OF PROJECT

Sr. No	Particulars	Annual Expenses (Rs. in lakhs)
1	Land	-
2	Building (Rented)	-
3	Plant & Machinery	5.90
4	Equipment and Furniture Exp.	0.90
5	Misc. Fixed Asset	0.02
6	Preoperative & Preliminary Exp.	0.15
7	Working Capital	8.75
	Total Project Cost	15.72

11. MEANS OF FINANCE

Bank-term loans are assumed @ 60%

Sr. No.	Particulars	Annual Expenses (Rs. in lakhs)
1	Promoter's contribution	6.29
2	Bank Finance	9.43
	Total	15.72

12. LIST OF MACHINERY REQUIRED

A. Machinery

Sr. No	Particulars	Unit	Price per Unit (Rs. in lakhs)	Total Amount (Rs. in lakhs)
1	Steam Distillation Unit	Set	0.75	0.75
2	Cold-Press Extraction Machine	Set	0.60	0.60
3	Harvesting Equipment	Set	0.25	0.25
4	Quality Control Equipment	Set	0.40	0.40
5	Packaging Machinery	Set	0.40	0.50
6	Irrigation System	Set	0.50	0.20
7	Tractor and Implements	Set	0.20	0.80
8	Storage Tanks	Set	0.80	0.30
9	Laboratory Equipment	Set	0.30	0.45
10	Miscellaneous Equipment	Set	0.45	0.15
Total Amount				4.40
Tax, Transportation, Insurance etc.				1.00
Electrification Exp.				0.50
Grand Total Amount				5.90

B. Furniture & Equipment

Sr. No	Particulars	Unit	Price per Unit (Rs. in lakhs)	Total Amount (Rs. in lakhs)
1	Office Furniture and Workstations	set	0.40	0.40
2	Computer and Printer	1	0.50	0.50
Total Rs.				0.90

13. PROFITABILITY CALCULATIONS

Sr. No	Particulars	Annual Expenses (Rs. in lakhs)
A.	Sales realisation	80.73
B.	Cost of production	
i)	Raw materials	48.44
ii)	Utilities	1.50
iii)	Manpower Cost (Salaries/wages)	9.84
iv)	Administrative expenses	0.70
v)	Packaging Cost	0.24
vi)	Material Lost Cost	0.24
vii)	Selling & distribution expenses	1.44
viii)	Repairs & maintenance	0.00
ix)	Rent	0.40
x)	Interest	1.07
xi)	Misc. expenses	0.00
	Total (B)	63.87
	Gross profit/loss (A – B)	16.86
	Less: Depreciation	0.58

C.	PBIT	16.28
D.	Income-tax	3.50
E.	Net profit/loss	13.84
F.	Repayment (Annual)	0.91
G.	Retained surplus (E-F)	12.93

14. BREAKEVEN ANALYSIS

(Rs. in Lakhs)

Fixed cost	
Land & Building Rent	0.40
Depriciation	0.58
Interest	1.07
Manpower	2.95
Total Fixed cost	5.00
Variable cost	
Raw materials	48.44
Utilities	1.50
ManPower	6.89
Administrative expenses	0.70
Selling & distribution expenses	1.44
Total Variable cost	58.97
Contribution margin	20%
Break-Even Point in Value	24.99

15. STATUTORY/GOVERNMENT APPROVALS

In this section, outline the various statutory and government approvals required to establish and operate your essential oil extraction business in Uttarakhand. These approvals may include:

- A. **Business Registration:** Describe the process of registering your business entity with the appropriate government authorities, such as sole proprietorship, partnership, private limited company, or any other legal structure.
- B. **Quality Standards:** Discuss compliance with quality standards and certifications required for essential oil production, such as ISO certifications, FSSAI (Food Safety and Standards Authority of India) certifications, and organic certifications.
- C. **Land and Zoning Approvals:** If applicable, provide information on land acquisition, land use approvals, and zoning regulations specific to your project.
- D. **Taxation and GST:** Explain the taxation structure, including GST (Goods and Services Tax) registration and compliance.

16. BACKWARD AND FORWARD INTEGRATIONS

A. Backward Integration

Backward integration involves activities that bring your project closer to the raw materials and resources required for essential oil extraction. Discuss the following:

1. **Raw Material Sourcing:** Explain your strategies for sourcing raw materials, such as specific types of aromatic plants, herbs, or flowers.
2. **Farming and Cultivation:** If applicable, discuss plans for in-house cultivation of raw materials or partnerships with local farmers.
3. **Quality Control:** Describe quality control measures for ensuring the purity and quality of raw materials.

B. Forward Integration

Forward integration focuses on the distribution and marketing of essential oils and related products. Provide details on the following:

1. **Product Distribution:** Explain your distribution channels, whether through local markets, online platforms, or partnerships with retailers.
2. **Value-Added Products:** If you plan to create value-added products, such as scented candles, perfumes, or skin care items, elaborate on these products and your marketing strategy.
3. **Market Expansion:** Discuss your plans for expanding into regional, national, or international markets.
4. **Branding and Promotion:** Describe your branding strategy, including packaging, labeling, and promotional efforts to increase product visibility.

17. TRAINING CENTERS AND COURSES

In this section, we provide information about training centers and courses relevant to essential oil extraction and related fields in Uttarakhand, India. Entrepreneurs and individuals interested in this industry can benefit from these training programs to acquire essential skills and knowledge. Here are some key training centers and courses:

A. Uttarakhand Organic Certification Agency (UOCA):

- **Training Programs:** UOCA offers training programs on organic farming practices and certification. Organic cultivation techniques are important for sourcing organic raw materials for essential oil extraction.

B. National Institute of Industrial Training (NIIT):

- **Courses:** NIIT provides courses in food processing, including those related to essential oil extraction, food safety, and quality control. These courses can help individuals gain expertise in the production of essential oils.

C. State Horticulture Development Society (SHDS):

- **Training Workshops:** SHDS conducts workshops and training sessions for farmers and entrepreneurs interested in horticulture, which includes aromatic and medicinal plant cultivation.

D. Online Courses and Webinars:

- **Various Online Platforms:** Several online platforms, such as Udemy, Coursera, and YouTube, offer courses and webinars related to essential oil extraction, aromatherapy, and herbal medicine. These resources can be accessed from anywhere, making them convenient for aspiring entrepreneurs.
- Swayam portal (link: <https://swayam.gov.in/>) can also be accessed for enhanced learning on business commerce, accounting, production, marketing, and areas of entrepreneurship.

E. Government Initiatives and Skill Development Programs:

- **Skill India:** Government-led initiatives like Skill India may offer skill development programs related to agro-processing and essential oil production. Entrepreneurs should check for the latest programs and training opportunities.

F. Local Agricultural Universities and Research Institutions:

- **Short-Term Courses:** Universities and research institutions in Uttarakhand may offer short-term courses, workshops, or seminars related to agriculture, horticulture, and essential oil extraction. These courses can provide valuable insights and hands-on experience.

G. Private Training Institutes:

- **Private institutes:** Some private training institutes may offer courses in herbal and aromatic plant cultivation, essential oil extraction techniques, and product development.

H. Consultation with Industry Experts:

- **Networking:** Entrepreneurs can network with industry experts, attend conferences, and participate in industry-specific events to gain knowledge and insights from experienced professionals.

It's essential to conduct thorough research and contact these training centers and institutions directly for the most up-to-date information regarding available courses, schedules, fees, and registration procedures. Additionally, entrepreneurs should consider their specific learning objectives and choose courses that align with their goals in the essential oil extraction industry.

Disclaimer

Only few machine manufacturers/institutes are mentioned in the profile, although many machine manufacturers/institutes are available in the market. The addresses given for machinery manufacturers/institutes have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.