ADMINISTRATION OF UNION TERRITORY OF LADAKH

सत्यमेव जयते

Enterprising Ladakh

ENTREPRENEURSHIP DEVELOPMENT INSTITUTE OF INDIA, AHMEDABAD

Project Profile

SHILAJIT

1. INTRODUCTION:

Shilajit, often referred to as the “Conqueror of Mountains and Destroyer of Weakness,” is a potent mineral resin that seeps out of the rocks in high mountain ranges such as the Himalayas. Rich in fulvic acid, humic substances, and over 80 trace minerals, Shilajit has been celebrated in Ayurveda and other traditional systems of medicine for centuries as a natural rejuvenator, energy booster, and adaptogen. It is known to enhance vitality, improve cognitive function, and strengthen immunity, making it one of the most sought-after natural nutraceuticals in the global wellness market.

Ladakh, with its pristine high-altitude terrain, minimal pollution, and unique geological formations, is one of the most authentic sources of pure Himalayan Shilajit. However, despite the region’s abundance, the full potential of Shilajit remains untapped due to challenges such as unregulated extraction, lack of scientific purification methods, inadequate testing facilities, and absence of standardised branding and packaging. Much of the Shilajit collected locally is sold in raw or semi-processed form, leading to loss of value addition and economic opportunity for the local population.

This project proposes the establishment of a state-of-the-art Shilajit Processing and Packaging Unit in Ladakh, aimed at transforming the region’s raw Shilajit into high-quality, laboratory-certified, and market-ready products. The facility will adopt modern purification and testing technologies aligned with AYUSH and FSSAI standards, ensuring the highest levels of purity, safety, and efficacy. The initiative will also focus on sustainable and ethical harvesting practices, integrating traditional knowledge of local collectors with scientific extraction methods to preserve the fragile mountain ecosystem.

Beyond product manufacturing, the project envisions developing Ladakh as a global hub for premium Himalayan Shilajit, fostering entrepreneurship among local youth and generating livelihood opportunities through collection, processing, packaging, and marketing. With the rising global demand for natural health supplements and Ayurvedic products, a well-branded, quality-assured “Ladakh Shilajit” can position itself strongly in both domestic and international nutraceutical markets.

Through this initiative, Ladakh will not only preserve and capitalise on its natural heritage but also promote a sustainable model of mountain bioresource based entrepreneurship merging traditional wisdom, scientific validation, and local empowerment.

2. OBJECTIVES

The proposed Shilajit Processing and Packaging Unit in Ladakh aims to harness the region's natural resources responsibly and transform them into sustainable economic opportunities. The specific objectives of the project are as follows:

Establish a Modern Processing Facility:

To set up a scientifically equipped Shilajit purification and packaging unit in Ladakh with modern technology for extraction, filtration, drying, and testing in compliance with AYUSH and FSSAI quality standards.

Ensure Quality and Authenticity:

To produce high-purity, laboratory-certified Shilajit products that meet both domestic and international standards, ensuring consumer trust and product traceability.

Promote Sustainable Harvesting:

To develop protocols for eco-friendly and regulated collection of Shilajit from natural deposits in collaboration with local communities and environmental authorities.

Value Addition and Branding:

To create a strong regional brand identity for "Ladakh Shilajit" through quality assurance, attractive packaging, and strategic marketing initiatives in nutraceutical and wellness markets.

Employment and Entrepreneurship Generation:

To generate livelihood opportunities for local youth, women, and traditional collectors through capacity building, skill development, and enterprise creation in Shilajit-based value chains.

Research and Product Diversification:

To collaborate with scientific institutions and AYUSH research bodies for continuous R&D, leading to product diversification such as Shilajit capsules, tinctures, energy tonics, and cosmetic formulations.

Promote Ladakh as a Global Wellness Source:

To position Ladakh as a credible and sustainable hub for natural health products, enhancing its reputation in the global Ayurvedic and nutraceutical sectors.

3. PRODUCT & ITS APPLICATION:

Primary Products:

- Raw Shilajit resin (purified and tested).
- Processed Shilajit powder, capsules, and liquid extracts.
- Blended wellness products (Shilajit with herbs like Ashwagandha).

Applications:

- Dietary supplements for energy, immunity, and anti-aging.
- Ayurvedic and nutraceutical industries.

Unique Selling Proposition: Lab-certified, ethically sourced "Pure Ladakhi Shilajit" with traceability.

3. DESIRED QUALIFICATION FOR PROMOTER:

Background in Ayurveda, herbal products, or nutraceuticals.

Knowledge of sustainable harvesting practices and quality testing.

Experience in export regulations and e-commerce marketing.

4. INDUSTRY LOOKOUT AND TRENDS:

Global Trends: Nutraceutical market growing at 8.3% CAGR (2023–2030); demand for organic, plant-based supplements.

Local Insight: Rising interest in Ayurveda and traditional Himalayan remedies post-COVID.

Opportunity: Premium pricing for certified, sustainably sourced Shilajit in the US, EU, and Middle East.

5. MARKET POTENTIAL AND MARKETING ISSUES:

Potential:

- Global Shilajit market: $340 million by 2027.
- Domestic demand from Ayurvedic companies (Dabur, Patanjali).

Challenges:

- Competition from adulterated/low-quality Shilajit.
- High certification costs (organic, FSSAI, AYUSH).

Ethical concerns around over-harvesting and environmental impact.

6. RAW MATERIAL REQUIREMENTS:

Material	Source
Raw Shilajit resin	Ladakh's Himalayan ranges
Herbal additives	Local farms/suppliers
Packaging	Food-grade bottles, jars

7. MANUFACTURING PROCESS:

Collection: Ethical harvesting by trained locals.

Purification: Dissolving resin in water, filtering impurities.

Concentration: Evaporation to achieve desired consistency.

Testing: Lab analysis for heavy metals, microbial content.

Blending: Mixing with herbs (optional).

Packaging: Airtight containers with tamper-proof seals.

8. MANPOWER REQUIREMENT:

Role	Number
Skilled (Lab technicians, QC)	4
Semi-Skilled (Processing, Packaging)	8
Unskilled (Harvesters)	6

9. IMPLEMENTATION SCHEDULE:

Phase	Duration
Licenses & approvals	3 months
Facility setup	4 months
Machinery installation	2 months
Trials & certifications	3 months
Commercial launch	1 month
Total: 13 months	

10. COST OF PROJECT (INR):

Component	Cost
Facility & lab setup	50,00,000
Machinery	30,00,000
Working capital	20,00,000
Total	**1,00,00,000**

11. MEANS OF FINANCE (INR):

Source	Amount
Promoter Contribution	40,00,000 (40%)
Bank Loan	50,00,000 (50%)
Government Subsidy	10,00,000 (10%)

12. LIST OF MACHINERY REQUIRED:

Machine	Quantity	Cost (INR)
Purification tanks	3	10,00,000
Evaporators	2	8,00,000
Capsule filling machine	1	5,00,000
Lab equipment (HPLC, pH meters)	1 set	7,00,000

13. PROFITABILITY CALCULATIONS (YEAR 1):

Metric	INR
Sales Revenue	1,50,00,000
COGS	60,00,000
Gross Profit	90,00,000
Operating Expenses	40,00,000
Net Profit	**50,00,000**

14. BREAKEVEN ANALYSIS:

Parameter	Value
Fixed Costs	60,00,000
Variable Cost/ Unit	200
Selling Price/ Unit	500
BEP (Units)	**20,000**

15. STATUTORY/GOVERNMENT APPROVALS:

FSSAI License for nutraceuticals.

AYUSH Certification (for Ayurvedic products).

Organic Certification (NPOP/USDA).

Forest Department permits for ethical harvesting.

GST Registration.

16. BACKWARD AND FORWARD INTEGRATIONS:

Backward: Train local communities in sustainable harvesting techniques.

Forward: Partner with e-commerce platforms (Amazon, Nykaa), Ayurvedic brands, and export agencies.

17. TRAINING CENTERS AND COURSES:

Centers: National Institute of Ayurveda (Jaipur), Ladakh Herbal Products Training Centre.

Courses: Good Manufacturing Practices (GMP), organic certification processes.

Stage	Key Machines / Equipment	Notes / Specifications to request
Raw cleaning / pre-treatment	Vibrating sieve, washer, crusher	Food-grade, stainless steel, easy cleaning
Extraction / dissolution	Solvent / water extraction vessels, stirred tanks, reactors	Temperature control, inert materials (SS 316 / high grade), PLC controls
Filtration / separation	Filter presses, centrifuges, decantation units	Fine filtration, multi-stage, membranes if needed
Concentration / evaporation	Vacuum evaporators, rotary evaporators	Low temperature to preserve actives
Drying	Vacuum dryer, tray dryer, spray dryer (if making powdered extract)	Control of moisture, prevention of degradation

Stage	Key Machines / Equipment	Notes / Specifications to request
Milling / grinding / size reduction	Pulverizers, micronizers, ball mills	Adjustable fineness, minimal heat generation
Packaging / filling	Paste filling machines, capsule filling, jar filling, sealing, labeling	Clean room, automation, sterilizable parts

Indian / Local Suppliers to Contact:

These suppliers already work in Ayurvedic / herbal extraction / processing domains. You may request custom configurations suited for Shilajit.

Supplier / Company	What they do / their strength	Notes / contacts & references
Mecha Engineering	Offers **Shilajit extraction plants** in India. Mecha Engineering	Good starting point — ask them for turnkey solutions for Ladakh conditions.
Mech O Tech LLP	They manufacture **Shilajit extraction and herbal extraction plants** in Hyderabad. MechoTech+2AAJJO+2	They already mention capacity and stainless construction.
LITCO Machinery (Kolkata, WB)	Ayurvedic machinery manufacturer. Litco India	Useful for more conventional Ayurvedic units (pills, powders)
Bombay Engineering Works	Ayurvedic & herbal machinery manufacture / export. bombayengg	They may supply parts or full modules.
Nupharmamachine	Maker of Ayurvedic plant machinery, complying with GMP / cGMP standards. NU Pharma	Strong candidate for certified equipment
Mariya Engineering Works (Coimbatore)	They produce herbal extractor machines (smaller scale) etc. mariyaenginworks.com	Might be good for pilot / small scale setup
TradeIndia – Herbal Extraction Machine Suppliers	A directory listing of many manufacturers like “Jas Enterprise, Kaps Engineers, Zigma Machinery, S. S. Engineering Works, Microtech Engineering, Harrison’s Pharma Machinery” TradeIndia	Use it to short-list many more suppliers; send RFQs
Kaps Engineers	They supply pulverizing / grinding / herbal extract equipment. Kaps Engineers	Could provide milling, grinding, size reduction parts

Conclusion: This project leverages Ladakh’s unique natural resource to tap into the booming global wellness market. By prioritising sustainability, quality certifications, and ethical practices, the unit can establish "Ladakhi Shilajit" as a premium brand. Strategic partnerships with Ayurvedic companies and digital marketing will drive scalability, while community engagement ensures ecological and social responsibility.