

Project Profile: Bhatt ki Dal (Black Soybean) Snack Line Unit – Uttarakhand

1. Introduction

Bhatt ki Dal, also known as black soybean, holds a special place in the traditional cuisine of Uttarakhand. It is valued not only for its rich taste and cultural significance but also for its nutritional profile—being high in protein, fiber, and essential minerals. In the hill regions of Kumaon and Garhwal, Bhatt is traditionally prepared as a slow-cooked curry or roasted for festive offerings. However, with changing food consumption patterns and the rising demand for healthy, protein-rich snacks, there is a strong case for reimagining Bhatt in modern snackable formats. A Bhatt ki Dal snack line, offering roasted, spiced, or puffed variants, caters to this evolving demand while preserving Uttarakhand's culinary identity.

This project proposes a micro to small-scale food processing unit that transforms locally grown Bhatt into value-added snacks like roasted Bhatt namkeen, Bhatt protein bars, spiced Bhatt trail mixes, and Bhatt-based savory bites. The initiative will tap into the growing market for nutritious, high-protein snacks by offering regional flavors in convenient packaging. Products will be designed for both local consumption and urban markets, where traditional ingredients in modern avatars are increasingly appreciated.

By setting up this unit in a rural cluster, the venture will create employment for local youth and women, support black soybean farmers through direct procurement, and contribute to food innovation rooted in sustainability. The Bhatt ki Dal Snack Line not only strengthens the value chain of an indigenous crop but also supports the goal of diversifying the regional food economy in Uttarakhand.

2. Industry Overview

India's snack food industry has evolved dramatically in recent years, driven by increased health awareness, rising disposable incomes, and growing demand for convenience. According to market reports, the healthy snacking segment in India is projected to grow at a compound annual growth rate (CAGR) of over 20% between 2022 and 2027. Consumers are increasingly

seeking out snacks that are low in oil, rich in protein, and made from natural ingredients. Pulses-based snacks, particularly soy-based products, are among the fastest-growing segments in this space.

Uttarakhand, with its rich agro-biodiversity, is uniquely positioned to contribute to this growth. Bhatt, a traditional pulse grown in the high-altitude regions of the state, has not yet been commercialized on a significant scale in processed formats. While the raw dal is popular in local households, there is very little representation of Bhatt in India's formal snack markets. The industry therefore presents a wide open space for innovation, branding, and niche product creation.

Several government schemes such as the Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME), ODOP (One District One Product), and the Devbhoomi Udyamita Yojana (DUY) support the development of indigenous food products. Under these schemes, there is strong potential to formalize Bhatt-based processing units, standardize hygiene and taste, and bring these regional foods to retail and export markets. This project leverages these opportunities and adds a layer of innovation through healthy, high-protein snacking.

3. Products and Application

The proposed Bhatt ki Dal Snack Line will initially launch four main product variants: (1) roasted and salted Bhatt snacks, (2) Bhatt trail mix with spices and dry fruits, (3) Bhatt crunch protein bars blended with jaggery and nuts, and (4) puffed Bhatt snacks coated with masala or herbs. These will be available in small 30g and 100g pouches, ideal for on-the-go consumption and school or office snacking. The flavors will draw from local Garhwali and Kumaoni culinary influences, such as jakhiya, bhang jeera, and Himalayan rock salt.

In addition to individual retail consumers, the products can be supplied to local cafés, tourism outlets, organic food stores, and Ayurvedic wellness centers. There is also potential for institutional sales to yoga retreats, homestays, and health resorts across Uttarakhand. Over time, the line may also include Bhatt flour-based chips, Bhatt laddoos, and granola blends for broader appeal. Seasonal variants using local spices and ingredients will add variety and encourage repeat sales.

These snacks will serve both functional and emotional consumer needs—offering high protein and fiber content for health-conscious individuals, while also delivering nostalgic and regional flavors for those familiar with pahadi cuisine. The shelf-stable nature of these products makes them suitable for e-commerce distribution and long-distance shipping, helping Uttarakhand-based products reach pan-India and NRI markets.

4. Desired Qualification

The enterprise can be led by rural youth, food entrepreneurs, or women's self-help groups with a keen interest in food innovation, nutrition, and value addition. While formal education is not mandatory, a basic understanding of food hygiene, nutrition, and small business management is desirable. Candidates with prior exposure to food processing or traditional pahadi recipes would find it easier to manage operations and ensure quality.

Skill enhancement programs offered by Krishi Vigyan Kendras (KVKs), the Food Technology Institute Dehradun, and Rural Self Employment Training Institutes (RSETIs) can help build the required technical and entrepreneurial capacity. These programs typically cover topics such as food safety, FSSAI compliance, packaging, branding, and working capital management, all of which are essential for operating a successful food unit.

Entrepreneurs should be motivated to work closely with farming communities, understand crop seasonality, and adopt eco-friendly packaging and sustainable sourcing methods. Familiarity with local and online marketing platforms will help improve product visibility and consumer engagement. Active participation in training under DUY or PMFME schemes can also help secure grants, mentorship, and machinery support.

5. Business Outlook and Trend

The market outlook for plant-based and protein-rich snacks is exceptionally strong, both in India and globally. With increasing awareness around dietary health, traditional pulses like soybeans are being reintroduced in newer formats. India's urban consumers are increasingly moving toward snack options that are low-fat, gluten-free, high in protein, and free of artificial additives. This trend is likely to continue, offering an excellent runway for traditional pulse-based snack lines like Bhatt.

Ethnic and regional snack startups are seeing significant traction due to the uniqueness of their offerings. Products like roasted makhana, jackfruit chips, and ragi laddoos have gained urban popularity, indicating a rising openness to new tastes and traditional ingredients. A well-branded Bhatt snack line can become part of this trend, especially if it highlights its Himalayan origin, local sourcing, and nutritional benefits.

From a policy perspective, the support from schemes like PMFME and ODOP creates an enabling environment for such micro food enterprises. With platforms like Tribes India, The North East Store, and state-supported SHG outlets showcasing regional foods, Bhatt-based snacks have several marketing channels. Institutional buyers including government canteens, tourism departments, and railway catering chains are also potential customers.

6. Market Potential and Market Issues

The market potential for Bhatt snacks lies primarily in three segments: health-conscious urban youth, regional food enthusiasts, and tourists. As a high-protein, high-fiber, and naturally gluten-free product, Bhatt-based snacks appeal to fitness seekers, diabetics, and vegetarians looking for plant-based alternatives to meat. In Uttarakhand itself, demand will rise through the hospitality sector—homestays, dhabas, cafes, and food souvenir shops.

The diaspora and NRI population who grew up with pahadi food traditions also represent a strong niche market. Packaged Bhatt namkeen or bars can serve as authentic gifts or travel snacks. With strategic branding and storytelling, Bhatt can be elevated to a "superfood" status in the domestic and global markets, alongside quinoa, millet, and amaranth. The potential for exports, particularly through curated ethnic stores abroad, is also significant.

Market issues include low awareness outside Uttarakhand about Bhatt, the need for taste standardization, and maintaining shelf-life. Additionally, Bhatt's limited cultivation and availability in certain seasons may disrupt supply chains. Hence, it is essential to build raw material linkages, ensure proper storage of Bhatt stock, and continuously educate the consumer through simple marketing, tastings, and recipe cards that explain its benefits.

7. Raw Material and Infrastructure

The primary raw material for the unit is Bhatt (black soybean), which is grown across the higher altitude regions of Kumaon and Garhwal, particularly in Pithoragarh, Chamoli, Rudraprayag, and Almora. Other inputs include mustard oil or ghee (for roasting), local spices (jakhiya, cumin, turmeric, Himalayan salt), jaggery, dry fruits (optional), and natural preservatives like lemon powder. Packaging materials like zip-lock pouches, paper-based jars, and labels will also be required.

The infrastructure should include a clean, ventilated workspace of around 800 sq. ft., divided into raw material storage, roasting and spice mixing, shaping and bar pressing (if required), packaging and labeling, and finished goods storage. Clean water, electricity, basic fire safety equipment, and food-safe working surfaces are mandatory. For roasted products, a smoke-free environment must be maintained with exhaust fans.

Additional infrastructure includes a moisture-controlled room for spice storage, stainless steel working tables, and bins for raw Bhatt. For Bhatt bars and mix products, space for mold pressing and drying racks will be necessary. All surfaces must follow FSSAI standards, and waste disposal (especially oil reuse and spice residue) must be compliant with local environmental norms.

8. Operational Flow and Flow Chart

The operational flow of the Bhatt ki Dal snack line will follow systematic food safety and hygiene protocols. Below is the step-by-step flow of operations from procurement to dispatch:

Operational Flow Chart

Procurement of Bhatt and Ingredients
↓
Cleaning, Sorting, and De-husking
↓
Roasting or Puffing of Bhatt
↓
Mixing with Spices or Sweeteners

↓
Forming (in case of bars)
↓
Cooling and Moisture Testing
↓
Packaging and Sealing
↓
Labeling, Quality Check, Dispatch

Each batch will be documented with a date and ingredients used. Testing for taste, shelf life, and consumer response will be conducted during initial production cycles. Products will be packaged in air-tight, reusable, and eco-friendly pouches with instructions for usage and storage.

9. Target Beneficiaries

This project primarily benefits smallholder farmers cultivating Bhatt in the middle and higher Himalayan regions. Many of these farmers are women or elderly individuals cultivating black soybean on small plots for household use. By creating a steady demand for Bhatt, the snack line enterprise will encourage higher production, improve price realization, and reduce wastage caused by lack of storage or processing infrastructure.

The project also provides a livelihood pathway for rural youth and women's self-help groups (SHGs), who can be involved in operations such as cleaning, roasting, spicing, packaging, and marketing. Women with experience in local cuisine or food preservation can take lead roles in managing daily production. Entrepreneurship support under DUY or PMFME can help youth in setting up decentralized units or becoming local sales agents.

Secondary beneficiaries include consumers who get access to healthy, locally-sourced snacks; small-scale logistics partners who handle last-mile delivery; and artisans involved in packaging design or branding. Additionally, Uttarakhand's tourism ecosystem benefits from authentic food souvenirs that represent the state's unique agro-cultural identity.

10. Suitable Locations

Suitable locations for establishing Bhatt snack processing units are those where black soybean is already cultivated in abundance and where access to local labor, water, and electricity is reliable. Ideal locations include:

- **Pithoragarh:** High Bhatt production, local culinary heritage, and proximity to Nepal border markets.
- **Almora:** Rich in food traditions, proximity to tourist routes, and active SHG presence.
- **Chamoli and Rudraprayag:** Access to raw material, good road connectivity, and skilled rural youth.
- **Tehri Garhwal:** Close to Rishikesh–Mussoorie tourism circuit and linked to regional food festivals.

These locations also benefit from access to KVKs, DIC support, and proximity to training and incubation centers. Units can be set up close to village clusters or along yatra/tourism routes to cater to both local and traveler markets.

11. Manpower Requirement

The unit can be operated with a lean team of 6–8 individuals for daily operations, including production, quality control, and packaging. One production supervisor or food technician is required to manage roasting and mixing processes, while 3–4 semi-skilled women workers can handle cleaning, sorting, packaging, and sealing. A part-time accountant and a marketing assistant or delivery coordinator will complete the team.

As operations scale up, seasonal workers may be hired during festivals or tourist season peaks. Cross-training staff for multiple functions ensures operational efficiency and flexibility. Regular training on hygiene practices, use of food-safe machinery, and customer handling should be provided to maintain quality and morale.

The venture will also require external inputs from designers (for branding), part-time quality testing labs (once a month), and logistics partners for reaching nearby urban centers. Initially, the entrepreneur or a family member may manage overall coordination and marketing before hiring full-time staff.

12. Implementation Schedule

Below is a suggested implementation timeline for establishing the Bhatt snack unit:

Activity	Timeline
Feasibility study and land identification	Month 1
DPR preparation and government application	Month 1
Machinery procurement and site readiness	Month 2–3
Staff hiring and training	Month 3
Raw material linkage and supplier onboarding	Month 3–4
Trial production and shelf-life testing	Month 4
Branding, packaging design, and registration	Month 4–5
Market testing (festivals, shops, fairs)	Month 5–6
Full commercial production	End of Month 6

Timely procurement of machinery and effective liaison with DIC offices and SHG federations will help maintain the schedule.

13. Estimated Project Cost

The estimated cost for setting up a small-scale Bhatt snack line unit is as follows:

Expense Head	Estimated Cost (INR)
Building rent/renovation (800 sq. ft.)	3,00,000
Machinery and equipment	5,50,000
Raw material for initial 3 months	1,20,000

Expense Head	Estimated Cost (INR)
Packaging and labeling	80,000
Branding, design, and website	70,000
Training and documentation	50,000
Contingency and miscellaneous	80,000
Total Project Cost	12,50,000

Cost may vary based on location, level of automation, and marketing scale.

14. Means of Finance

The project can be financed using a mix of government support, bank loans, and the promoter's equity. A typical financing structure can be:

Source	Amount (INR)
Promoter's contribution (10–15%)	1,50,000
Bank Loan (MUDRA/MSME loan)	8,00,000
Capital Subsidy (PMFME/DUY)	3,00,000
Total	12,50,000

Beneficiaries under SHG or FPOs may also access additional assistance from NRLM or NABARD.

15. Revenue Streams

The enterprise will generate revenue through multiple channels. The primary source will be **retail sales of roasted Bhatt snacks and protein bars** through local markets, kirana stores, and SHG-run outlets. Packaged in attractive 30g, 100g, and 250g packs, these products can be

priced between ₹25 and ₹150 depending on the variant and quantity, ensuring accessibility for local buyers and profitability for the unit.

Secondary revenue will come from **bulk and institutional orders**. Homestays, cafes, wellness retreats, and souvenir shops catering to tourists will offer recurring orders for Bhatt-based snacks. These clients prefer locally themed, healthy food items that can be showcased to visitors as authentic cuisine from the hills. During yatra seasons and festivals, demand is expected to rise, particularly for gifting packs or festive combo boxes.

Tertiary revenue may arise from **online sales** via social media platforms, state-run ecommerce platforms like HimMart or TribesIndia, and marketplaces such as Amazon, Flipkart, and Big Basket. As awareness of the brand and the health benefits of Bhatt grows, these platforms will help scale the business beyond Uttarakhand. Packaging and logistics partnerships will be essential to ensure successful online delivery.

16. Profitability Streams

Given the low cost of raw materials and high perceived value of traditional and protein-rich snacks, this unit offers strong profitability. For example, roasted Bhatt with herbs and spices has a raw cost of approximately ₹30 per 100g pack (including packaging and labor), and can be sold at ₹70–₹90 depending on the market. Similarly, Bhatt protein bars costing ₹10–₹12 to produce can retail at ₹25–₹30, offering margins of over 50%.

Profitability is further enhanced by the ability to diversify the product line without significant additional investment. Once the core roasting and packaging infrastructure is in place, the same equipment can be used to create other regional snacks like jakhiya-flavored popcorn, mandua chips, or mixed trail snacks. These variations help increase the average transaction value while reducing production downtime.

Long-term profitability will also be strengthened by developing a loyal customer base, particularly among tourists, health-conscious consumers, and Uttarakhandis living in urban areas. Repeat orders, seasonal spikes during festivals, and institutional contracts (e.g., eco-resorts) will help ensure revenue stability. Consistent branding, taste, and eco-packaging will enable premium pricing and reduce competition with mass-market namkeen brands.

17. Break-even Analysis

An approximate break-even analysis based on projected costs and margins is as follows:

Particulars	Amount (INR)
Fixed Costs per Year	5,00,000
Contribution per Unit (100g pack)	₹40
Average Selling Price (100g)	₹80
Variable Cost per Unit	₹40
Break-even Volume (Units/Year)	12,500 packs
Break-even Volume (Units/Month)	~1,050 packs

Selling just over 1,050 units per month (approx. 35 packs per day) will allow the enterprise to cover its fixed costs and break even. Given the demand potential and multi-channel marketing strategy, this is an achievable target within the first year of operation.

18. Marketing Strategies

The marketing approach will combine traditional, grassroots engagement with digital strategies to reach broader markets. Locally, branding will focus on **authenticity, health benefits, and Himalayan heritage**, with products introduced at village fairs, tourism counters, and local kirana stores. Tastings at homestays and cafés, participation in food exhibitions, and tie-ups with regional handicraft centers will increase visibility among travelers and urban tourists.

For digital outreach, Instagram and YouTube will be key platforms. Short recipe reels, testimonials from local women making the snacks, and video stories about Bhatt's nutritional benefits and cultivation will create engagement. Collaborations with regional food influencers and wellness bloggers can boost reach. QR codes on packaging that link to preparation ideas, farmer stories, or customer testimonials can further improve trust and brand connection.

The brand identity should reflect Uttarakhand's essence—using Pahadi motifs, Garhwali or Kumaoni names for flavors, and eco-conscious packaging. Seasonal product drops, festive hampers, and travel-friendly snack boxes will help drive repeat purchases. Participation in the PMFME One District One Product exhibitions, and DIC or NABARD fairs will allow national exposure.

19. Machinery Required and Vendors in Uttarakhand

The unit will require the following equipment to support production at a small to medium scale:

Equipment	Purpose	Approximate Cost (INR)
Grain cleaner and sorter	Cleaning Bhatt before roasting	60,000
Roaster (electric/oil-less drum type)	Roasting Bhatt evenly	90,000
Spice blender/mixing tumbler	Coating Bhatt with spices	55,000
Protein bar forming press (manual)	Shaping Bhatt energy bars	70,000
Sealing and weighing machine	For packing and measuring	75,000
Label printing machine	For product labeling	40,000
Moisture meter and food-grade bins	Quality control and hygiene	60,000
Total Estimated Machinery Cost		4,50,000

Potential Vendors in Uttarakhand:

- **Himalayan Food Machinery**, Dehradun – Specializing in food-grade local machinery.
- **Green Kraft Equipments**, Haldwani – Known for custom drum roasters and sealers.
- **Shivalik Tech Foods**, Rudrapur – Suppliers of labeling and packaging systems

20. Environmental Benefits

The Bhatt snack enterprise aligns closely with principles of sustainability and ecological preservation. Firstly, Bhatt (black soybean) is a traditional, indigenous crop well-suited to rain-fed hill agriculture, requiring minimal chemical input and conserving soil health through nitrogen fixation. By promoting local consumption of Bhatt, the project reinforces biodiversity and discourages monoculture farming or chemically-intensive crops that deplete the fragile mountain ecosystem.

The unit will also utilize energy-efficient equipment, including oil-free roasting machines and solar-powered drying or lighting systems where feasible. Packaging materials will be eco-conscious—preferably biodegradable, recyclable, or made from kraft paper. Reusable jars or cloth bags can also be introduced for bulk orders to reduce single-use plastic.

By creating localized processing and distribution hubs, the unit significantly reduces carbon emissions linked to long-distance transportation. Waste generated from cleaning or spice coating can be composted or fed to livestock. As a community-based model, the project promotes short supply chains, reduces post-harvest losses, and encourages responsible consumption habits among consumers—thus contributing positively to environmental sustainability.

21. Future Opportunities

The long-term vision for this enterprise includes scaling up the snack line to cover a wider variety of Himalayan pulses and grains such as gahat, rajma, jhangora, mandua, and kulath. These can be blended into innovative snack formats such as protein laddoos, cereal bars, mixed pulse crisps, or breakfast granola. There is also scope to introduce seasonal or festival-specific editions, such as Bhatt-based chikki during Makar Sankranti or spiced Bhatt mixes for Navratri fasting diets.

Export opportunities can be explored by targeting health-conscious NRI communities through Indian ethnic stores abroad or curated ecommerce platforms. Securing GI tagging for Bhatt as a native pulse of Uttarakhand and highlighting its traditional recipes can strengthen product identity and create international branding potential. Collaborations with nutritionists and chefs can further develop recipes and expand the brand story.

Eventually, the venture can evolve into a regional food brand focused on Himalayan superfoods—representing Uttarakhand’s agro-ecological richness. Training other SHGs or FPOs, setting up franchise micro-units in different districts, and opening branded retail outlets at tourism hubs are additional pathways. The Bhatt snack line is thus not just a food processing idea—it is a scalable, regenerative, and culturally-rooted enterprise with potential for national impact.

Disclaimer

Only a few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers 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 imply any recommendation.