CATTLE FEED

1. INTRODUCTION

The Cattle Feed project, located in the picturesque region of Uttarakhand, India, offers an excellent investment opportunity for aspiring entrepreneurs interested in the micro and small-scale sector. Uttarakhand, known for its lush green pastures and a significant population engaged in animal husbandry, presents an ideal setting for the establishment of a cattle feed production unit.

2. PRODUCT & ITS APPLICATION

This project's focus is the production of superior-quality cattle feed, meticulously designed to cater to the dietary requirements essential for dairy and beef farming. The crafted feed will be versatile, accommodating the needs of different cattle breeds and age categories, aiming to support their growth, enhance milk yield, and foster their general well-being. The application of this specially formulated cattle feed spans several key areas: it plays a pivotal role in amplifying milk production among dairy cows, elevating meat quality, and accelerating growth rates in beef cattle, thereby improving their overall health. Furthermore, it delivers vital nutrients necessary for the development of healthy calves, strengthens the immune system of the cattle, and ultimately, contributes to the elevation of farm productivity and profitability. This holistic approach not only promotes the health and efficiency of the cattle but also aligns with the goals of maximizing output and ensuring the sustainability of farming operations.

3. DESIRED QUALIFICATION FOR PROMOTER

To successfully launch and oversee the Cattle Feed project in Uttarakhand, potential promoters must have a comprehensive skill set and knowledge base. Essential qualifications include a thorough understanding of the livestock and cattle farming industry and expertise in cattle nutrition. Strong managerial and organizational capabilities are critical for the smooth running and growth of the project. Financial stability or the ability to secure funding is also necessary to cover startup and operational costs.

Familiarity with the regulatory landscape of the agriculture sector is crucial to ensure compliance with government standards. A commitment to sustainable and environmentally friendly practices highlights the importance of eco-conscious operations. Additionally, engaging with the local farming community is key to ensuring the project's relevance and fostering collaborative relationships. These attributes are crucial for the project's success and its positive impact on Uttarakhand's agricultural sector.

4. INDUSTRY OUTLOOK AND TRENDS

The cattle feed industry in Uttarakhand is poised for growth, driven by tangible factors. With a rising population and an expanding middle class, there is a notable increase in demand for dairy and meat products, resulting in a heightened need for quality cattle feed. The Uttarakhand government has actively supported this growth through various schemes and subsidies, such as the "Livestock Development Scheme" and "Dairy Entrepreneurship Development Scheme," fostering a favorable environment for cattle feed businesses. Technological innovations in feed formulation and manufacturing processes have further enhanced the production of nutritionally balanced and cost-effective cattle feed. The industry is also responding to the trend towards organic farming, with a growing demand for organic cattle feed. Uttarakhand's cattle feed sector is exploring export opportunities, particularly in neighbouring regions, indicating potential economic growth and sustainability for the industry.

5. MARKET POTENTIAL AND MARKETING ISSUES; IF ANY

The cattle feed market in Uttarakhand holds significant potential, driven by factors like an increasing livestock population, growth in the dairy industry, and a shift towards sustainable farming practices. With a substantial population engaged in dairy farming, there is a consistent demand for high-quality cattle feed. Government support through schemes aimed at promoting

animal husbandry further contributes to a favorable market environment. To tap into this potential, a comprehensive marketing strategy is essential, focusing on product branding, an efficient distribution network, farmers' education, and potential collaborations with government agencies. However, challenges include stiff competition, seasonal variations in demand, and price sensitivity among farmers. As of 2022, the Indian cattle feed market size was INR 956.7 billion, projected to grow at a CAGR of 8.2% to reach INR 1,578.2 billion by 2028. Existing brands in India include Mother Dairy, Heritage Foods, and Ruchi Soya, while competitors in Uttarakhand include UCDF and Heritage Nutrivet Limited. Alongside established brands, there are also numerous small-scale cattle feed manufacturers in Uttarakhand.

6. RAW MATERIAL REQUIREMENTS

Creating high-quality cattle feed involves sourcing a diverse array of raw materials to ensure a well-rounded diet for the cattle. The primary energy sources in the feed come from grains such as maize, barley, wheat, and sorghum. These grains are fundamental in providing the necessary energy cattle need for growth, milk production, and overall health. To meet the protein requirements essential for cattle development, ingredients like soybean meal, groundnut cake, and sunflower meal are incorporated, supplying the vital proteins needed for muscle growth and milk yield.

A balanced diet also requires the inclusion of minerals and vitamins. Micro-ingredients such as calcium, phosphorus, along with various vitamins and trace minerals, are added to the feed to ensure cattle receive all the necessary nutrients for healthy development and immune function. Fiber sources like rice bran, wheat bran, and maize bran are also crucial. They contribute to the feed's fiber content, aiding in digestive health and ensuring the cattle's gut functions efficiently.

Moreover, to enhance the feed's quality and acceptance by the cattle, additives like antioxidants, preservatives, and flavor enhancers are sometimes included. These additives help extend the feed's shelf life, maintain its nutritional value, and make it more palatable for the cattle, ensuring they consume enough to meet their dietary needs.

Here are details of suppliers:

- Kapila Krishi Udyog Ltd.: The registered head office of Kapila Krishi Udyog Ltd. is located at 109/363, RK Nagar, GT Road, Kanpur (U.P.) India. Their contact details are: Email: sales@kapilaagro.com; Phone: 91 512 2540021
- Avanti Feeds Limited, G-2, Concorde Apartments, 6-3-658, Somajiguda, Hyderabad-500082' Telangana, India. Ph: 040-23310260, 23310261

7. MANUFACTURING PROCESS

The production of cattle feed is a detailed process that ensures the final product is nutritious, safe, and of high quality. This process begins with the reception of raw materials, where incoming ingredients are meticulously inspected for quality, rejecting any that don't meet the standards. Next, grains and protein sources are ground into a fine powder, a step crucial for enhancing digestibility.

Following grinding, the various ingredients are thoroughly mixed to ensure a consistent and uniform blend. The mixture then undergoes pelletizing or extrusion, transforming it into uniform pellets or crumbles, which aids in easy consumption and handling. After pelletizing, the feed is cooled to room temperature, a vital step to eliminate moisture retention that could lead to spoilage.

The cooled feed is then packaged into appropriate bags or containers, making it ready for distribution. Quality control is a continuous part of the manufacturing process, with checks at every stage to guarantee the feed's nutritional value and safety. Once packaged, the cattle feed

is stored in a dry, cool, and well-ventilated area to preserve its quality until it reaches the consumer.

Packaging materials for cattle feed vary, with polypropylene (PP) bags being a popular choice for their moisture resistance and durability. Paper bags offer an eco-friendly option for smaller quantities, while Flexible Intermediate Bulk Containers (FIBC) or bulk bags cater to larger volume needs, ensuring efficient handling and storage. Packaging sizes are adapted to meet different market and customer demands, with 25 kg bags for retail and smaller farms, 50 kg bags for larger operations, and bulk packaging options for industrial or commercial clients, facilitating versatility and convenience in distribution and use.

The BIS standard for cattle feed is IS 2052:2009. This standard specifies the requirements for compounded cattle feeds for buffaloes, cattle, and working bullocks. Compound feed bags must be packaged and marked in compliance with IS 2052:2009, and each bag must bear the ISI certification mark.

8. MANPOWER REQUIREMENT

Sr. No	Particulars	No. of Person	Months	Monthly Wages Amount/Person (Rs in Lakhs)	Monthly Wages - Total (Rs in Lakhs)	Annual Expenses (Rs in Lakhs)
1	Skilled	2	12	0.20	0.40	4.80
2	Semi-skilled	4	12	0.15	0.60	7.20
3	Unskilled	3	12	0.10	0.30	3.60
	Total					**15.60**

9. IMPLEMENTATION SCHEDULE

Sr. No.	Activity	Time Required (months)
1	Acquisition of Premises	1.5
2	Construction (if applicable)	3.5
3	Plant & Machinery Procurement & Installation	3
4	Arrangement of Finance	2
5	Recruitment of Manpower	1
Total Time Required (with some concurrent) events		**8**

10. COST OF PROJECT

Sr. No.	Particulars	Amount (Rs in Lakhs)
1.	Land and Building	10.00
2.	Machinery	21.00
3.	Pre-operative Expenses	2.00
4.	Equipment and Furniture	1.60
5.	Working Capital	5.00
Total Project Cost		**39.60**

A small-scale cattle feed **production plant can have a capacity of 1 ton per day**. A small feed mill can produce around 250 tons annually.

11. MEANS OF FINANCE

Bank-term loans are assumed @ 75 % of fixed assets.

Sr. No.	Particulars	Percentage Share	Amount (Rs in Lakhs)

1	Promoter's Contribution	25%	9.90
2	Bank Finance	75%	29.70
Total			**39.60**

12. LIST OF MACHINERY REQUIRED

A. Machinery

Sr. No	Particulars	Unit	Unit Cost (Rs in Lakhs)	Total Amount (Rs in Lakhs)
1	Feed Grinder	1	1.50	1.50
2	Feed Mixer	1	1.00	1.00
3	Pelletizing Machine	1	2.00	2.00
4	Drying Equipment	1	1.50	1.50
5	Cooling Equipment	1	1.00	1.00
6	Packaging Machine	1	1.25	1.25
7	Conveyor Belts	2	0.50	1.00
8	Quality Control Lab Equipment	Set	2.00	2.00
9	Storage Silos	2	1.00	2.00
10	Weighing Scales	2	0.25	0.50
11	Raw Material Storage Bins	3	0.30	0.90
12	Forklift or Material Handling Equip.	1	1.50	1.50
Total Amount in Rs.				**16.15**
Tax, Transportation, Insurance, etc. in Rs.				3.23
Electrification Expenses (Wiring) in Rs.				1.62
Grand Total Amount in Rs.				**21.00**

B. Furniture & Equipment

Sr. No	Particulars	Unit	Unit Cost (Rs in Lakhs)	Total Amount (Rs in Lakhs)
1	Office Furniture (Desk, Chairs)	Set	0.50	0.50
2	Computers and Printers	2	0.40	0.80
3	Laboratory Furniture	Set	0.30	0.30
Total				**1.60**

1. Mechpro Engineering
   Address: Plot No. 186/187/188,
   Chandauli Ramnagar Road,
   Katesar, Varanasi;
   https://www.mechproengineering.com/
2. Proveg Engineering And Food Processing Pvt Ltd (Head Office)
   Gate No 1573, Pimpri-Chinchwad,
   Chikhali Dehugaon Road, Chikhali-412114.
   https://www.provegengg.com/

13. SALES REALIZATION CALCULATION

Sr. No	Product	Unit Price per 1000 Kgs (Rs in Lakhs)	Quantity (in Kgs)	Sales in Percentage	Total Sales (Rs in Lakhs)
1	Cattle Feed	0.3	250	100%	75.00
	Total			100%	75.00

14. PROFITABILITY CALCULATIONS

Note: Assumed production in the first year is 250 tonnes per year.

Sr. No	Particulars - Amount (Rs.)	Year-I (Rs in Lakhs)
A.	Sales Realization	
	Sales (Assuming 15% growth per year)	75.00
	Other Income (Assuming constant)	
	Total Sales Realization	75.00
B.	Cost of Production	
	i) Raw Materials	41.25
	ii) Utilities (Assuming constant)	0.35
	iii) Manpower (Salaries/wages)	15.60
	iv) Administrative Expenses (Assuming constant)	0.55
	v) Selling & Distribution Expenses (Assuming constant)	0.40
	viii) Interest (Assuming constant)	3.96
	Total Cost of Production	62.11
	No of Units Produced	248
	Cost of Goods Sold	0.25
	Gross Profit/Loss (A – B)	12.89
	Less: Depreciation	3.17
C.	PBIT (Profit Before Interest and Tax)	9.73
D.	Income-tax (Assuming 28% tax rate)	2.73
E.	Net Profit/Loss (C - D)	7.00
F.	Repayment	3.96
G.	Retained Surplus (E - F)	3.04

15. BREAK EVEN ANALYSIS

Fixed cost	Year-I (Rs in Lakhs)
Depreciation	3.17
Interest	3.96
Manpower	4.68
Total Fixed cost	11.81
Variable cost	
Raw materials	41.25
Utilities	0.35
Manpower	10.92
Administrative expenses	0.55

Selling & distribution expenses	0.4
Total Variable cost	53.47
Contribution margin	**20%**
Break-Even Point in Value	**59.05**

16. STATUTORY/GOVERNMENT APPROVALS

- **Business Registration with USIDC**: Register the cattle feed production business with Uttarakhand State Industrial Development Corporation (USIDC). The USIDC facilitates investments and supports the infrastructure development essential for industrial growth in Uttarakhand.
- **Environmental Clearance**: Acquire clearance from the State Pollution Control Board (SPCB) and the Ministry of Environment, Forest and Climate Change (MoEFCC). This is crucial for adhering to environmental norms and avoiding legal issues due to violations.
- **BIS Certification**: The standard IS 2052:2009 covers cattle feed and specifies the requirements for compounded cattle feeds for buffaloes, cattle, and working bullocks.
- **The FSSAI** issued guidelines for these standards and recognized the importance of regulatory control of animal feeds.
- **GST Registration**: Mandatory registration for Goods and Service Tax, depending on the business's turnover and type.
- **Customs and Trade Compliance**: Necessary if the business involves importing or exporting raw materials or finished products. Adherence to customs regulations and duties is required.

17. BACKWARD AND FORWARD INTEGRATIONS

A. Backward Integration

- **Raw Material Sourcing**: Establish a sustainable sourcing network for raw materials like grains, oilseed meals, and additives, preferably from local sources to reduce costs and support the local economy.
- **Component Production**: Set up a facility that can process and mix raw materials into finished cattle feed products.
- **Quality Control**: Implement stringent quality control measures to ensure the feed meets nutritional standards and is safe for livestock consumption.

B. Forward Integration

- **Distribution and Sales**: Develop robust channels for distributing the cattle feed to local dairy farms, including direct sales and partnerships with agricultural supply stores.
- **Repair and Maintenance Services**: Provide regular maintenance services for the machinery used in cattle feed production to ensure continuous and efficient operations.
- **Diversification**: Explore diversifying into related products such as poultry feed or pet food, and value-added services like nutritional consulting for livestock farmers.

18. TRAINING CENTERS AND COURSES

There are few specialized Institutes that provide training and certification.

For training in cattle feed production, the National Dairy Development Board (NDDB) offers various training programs. These programs include training on fodder production and conservation, ration balancing, and more. They are suitable for different participants, including farmers, dairy cooperative members, and technical officers involved in animal nutrition. These programs are conducted at NDDB's training centers located at Anand, Jalandhar, Erode, and Siliguri. They provide both theoretical knowledge and practical skills essential for the cattle feed industry.

Swayam portal (link: https://swayam.gov.in/) can also be accessed for enhanced learning on business commerce, accounting, production, marketing, and areas of entrepreneurship.

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