RAMAIAH
Institute of Management

Abhyuday
Abhyuday, IIT Bombay

Cud by Cud:

Enriching the dairy industry through cattle nutrition

By Team Red Ocean

Team members:
Avinash Shanbhogue
Diksha Mishra
Students, Ist year PGDM
Ramaiah Institute of Management
Bengaluru, Karnataka

Sector and market analysis to identify key challenges

Key Challenges

1

COMFED, Patna, Bihar, India

Telephonic interview

Input received from a dairy procurement officer

- Low productivity due to tropical climate
- Rural poor unable to afford costly cattle management practices
- Ample amount of incentives are available but execution is poor

Key Challenges

2

Dadimi village, Almora district, Uttarakhand, India

On field survey

Input received from cattle owners of the village

Fresh pasture available only during monsoon months

Preserved fodder are mostly ruined with time due poor management

During dry winter months, cattle is fed leaves of Bhimal (*Grewia optiva*)

Pictures from Dadimi village. February, 2021

Key Challenges

3

Maharashtra, India
Telephonic interview

Input received from a student studying dairy technology at Dr. Babasaheb Ambedkar Marathwada University

Lack of scientific practices in cattle rearing in middle and low income cattle owners

Key Challenges

4

Kansas, USA Telephonic interview

Input received from a scientist working in Kansas Sate University

Ample amount of state and national policies are available but execution is poor

Detailed explanation of proposed solution

Requirements for optimum productivity

- A balanced ration
- High quality feed
- Scientific in-keeping
- Breeding
- Disease prevention

Road blocks in meeting requirements

- Lack of finances amongst cattle owners
- Poor implementation of govt schemes
- Shortage of good quality feed all year round
- False preconceived notion regarding supplements
- Limited infrastructure and technological aid
- Declining affinity of youth towards cattle rearing
- Fragmented dairy farms in India

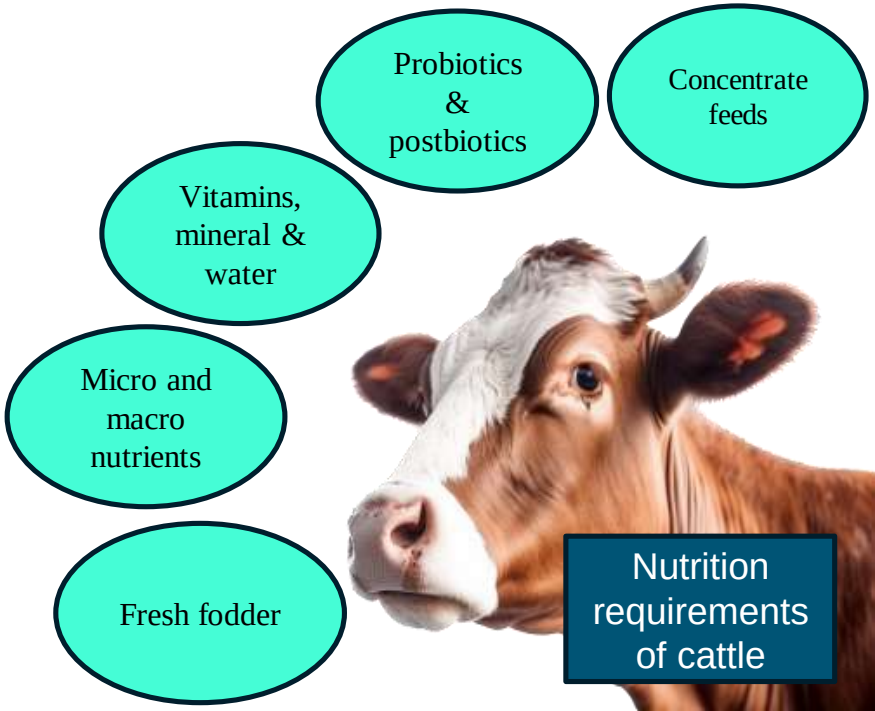
Detailed explanation of key challenges

Cattle nutrition: Balanced ration + high quality feed

Cattle nutrition requirements are complex
Eg; Excess protein = increased blood urea = increased risk of early embryonic mortality, impaired sperm viability and decrease progesterone concentrations
Deficiency of protein = Reproductive performance reduces

Traditional fodder is not sufficient because:
It lacks all nutrient requirement eg; Vit A, Fats.
Shortage of fodder during dry months

Special nutrition requirements during extreme whether conditions and breeding period. During winter season animals used to consume 10 to 30% more food than as usual for production of more heat in body.
Eg; Greater quantity of food required during winter months with fat or a mixture of oil cake and jaggery in ration



Mitigation plan

What should be done?	How to do it?
Educating cattle owners on the complex nutrition requirements of cattle	Creating awareness amongst cattle owners through local vets, dairy procurement officer and organizing camps at village level
Making available quality fodder and supplements based on requirements of individual cattle	Fodder plantation, proper preservation of surplus fodder for dry months, mass production for low cost availability
Gathering cattle data for nutrition needs and effect of supplements on them for greater enhanced research and monitoring	Use of IoT devices for gathering data, cloud computing for storage and later analysis and interpretation of this data to understand the effect of feeding practices on cattle

Detailed explanation of key challenges

Infrastructure requirements

Shelter houses for cattle
Proper shelter for cattle is essential to ensure:
Protection from extreme weather conditions
Protection from diseases

Eg;
4-6 inches depth bedding is advisable for large animals and 2 inches for small animals

Cold storage
For surplus cattle feed, supplements that require lower temperature.

Mitigation plan

What should be done?	How to do it?
Constructing an ideal shelter house for cattle	Government incentives provided to cattle owners for construction of cattle shelter OR Cow Tenancy (explained in next slide)
Cold storage in tier 3 cities (closest to rural areas i.e., centers of milk production)	Construction of cold storage and development of cold chain by government and cooperatives in partnership

Detailed explanation of proposed solution

Cow tenancy:

Big dairy owners can take cattle on lease from middle & low income ones in lieu of money or milk, etc.

Lending cattle from farmers (like land tenancy) who are unable to provide good nutrition levels to their cattle due to lack of finances or physical strength in exchange of either money or produce.

Cattle raised in scientifically managed optimum conditions to ensure max productivity.

Feasibility analysis of proposed solution

FACTOR	ANALYSIS
Market size	Revenue in the Milk market amounts to US $71.38bn in 2024. The market is expected to grow annually by 6.77% (CAGR 2024-2028).
Technical feasibility	All of the technological instruments mentioned in proposed solutions are already available
Financial feasibility	Dairy Processing & Infrastructure Development Fund has been set up with a corpus of Rs. 8,004 crore (Union Budget 2017-18)
Legal & regulatory feasibility	Government schemes (eg; NGG, RGM), government backed cooperatives and SHGs makes entering dairy sector easy
Risk analysis	Collapse of collaboration between government and private players Lack of enthusiasm on part of cattle owners Macroeconomic factors

Conclusion:

The proposed model for increasing per animal milk productivity in India is feasible.

Potential Socio-Economic Impacts

Increase cattle owners income

Increase milk production in India

Increase nutrition = meeting SDGs

Increased employment opportunities in dairy sector

Increased exports

Creating new market internationally. Eg; ghee

Surplus produce = opportunity to research & innovate

Reverse migration between villages and cities

END SLIDE