



DAIRY FARMING

CREATED BY BABLI KHATUN

COLLEGE - M.U.C WOMEN'S COLLEGE

COLLEGE ROLL- 479

UNIVERSITY ROLL NO - 170611610014

REGISTRATION NO - 201701010526 of 2017- 18

BSC GENERAL 6TH SEMESTER BOTANY (DSE 2)

DISSERTATION REPORT PRESENTATION

ACKNOWLEDGEMENT:

I have immense pleasure in presenting this project on Dairy Farming.

Thank you Dr Pritam Chattopadhyay sir for give this Dissertation topic (Dairy farming)

The subject is an interesting one .It gave me an opportunity to have detailed study on the subject and showed how thing work in the practical world .I came to understand and analyze the importance and the role of Indian Dairy Industry and Dairy Management.

I had a great time working on the project and I have provided information to the fullest of knowledge and findings .

INDEX

ACKNOWLEDGEMENT

SUMMARY

INTRODUCTION

DISCUSSIONS: HISTORY

IMPOTENCE OF THE DAIRY INDUSTRY

BREEDS

MILK MACHINE USES IN DAIRY INDUSTRY

CLEAN ON DAIRY INDUSTRY

DISTRIBUTION OF DAIRY INDUSTRY

PRODUCTION & PROFITABILITY STATEMENTS

2020 DAIRY FARMING BUSINESS

RECENT DAIRY DEVELOPMENT IN INDIA

STRUCTURE OF INDIAN INDUSTRY

FAO DAIRY INDEX

PRODUCT EXPERT

MARKET STRATEGY

CONSUMPTION

RESEARCH AND DEVELOPMENT

CONCLUSION

REFERENCE

SUMMARY:

India is the largest producer and consumer of milk in the world. The Indian dairy sector is characterized by a very large number of small herds.

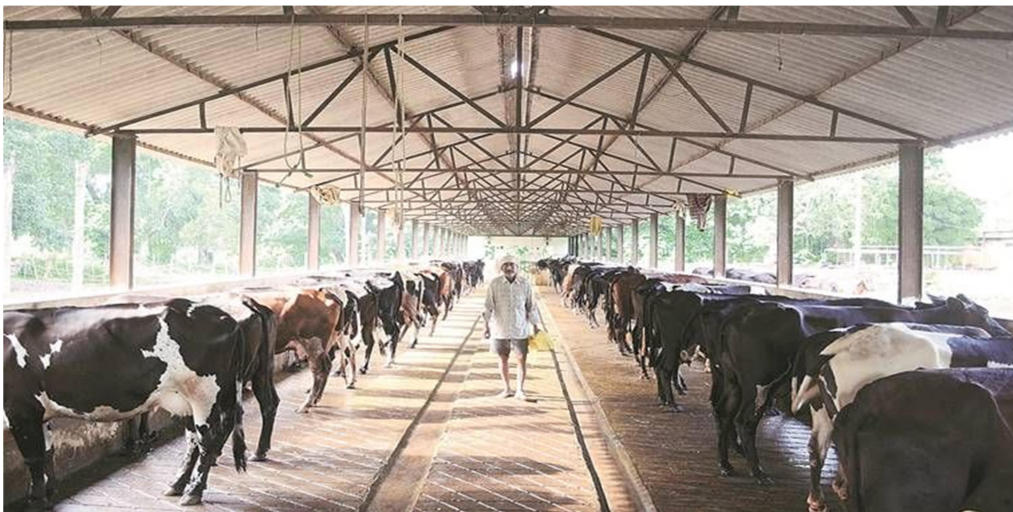
Production of milk from buffaloes exceeds that of cows, which are considered sacred by Hindus.

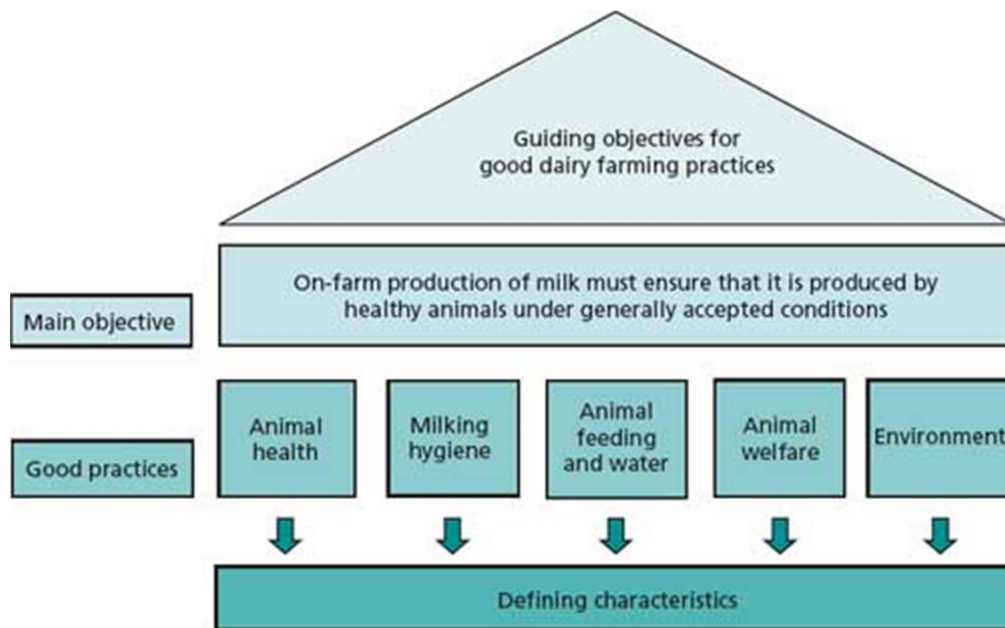
India has an extensive government supported dairy cooperative structure.

INTRODUCTION:

Dairy farming has been an important part of the agricultural scenario for thousands of years. India being a predominantly agrarian economy has about 70 per cent of its population living in villages, where livestock play a crucial role in the socio-economic life. Livestock provide high-quality foods such as milk, cheese, butter, ghee, etc. India is not only one of the top

producers of milk in the world, but also the largest consumer of milk and milk products in the world. Due to the shortfall in supply, we have to import significant amounts of milk products to meet internal demand. Agriculture and animal husbandry have a symbiotic relationship, in which the agricultural sector provides feed and fodder for the livestock and animals provide milk, manure and draught power for various agricultural operations. Dairy sector is instrumental in bringing socio-economic transformation in India. It has created a lot of employment opportunities and also provides improved nutritional benefits.





The development of dairy farming in India has been acknowledged in the world, as one of the most successful developed dairy activities. Domestication of cattle is practiced since primitive times till today, everywhere in the world. In fact the cow was so important to the early people of central Asia that wealth was measured in terms of number of cattle. Later, the cow was treated as a sacred animal and is still so considered by a major part of the Hindu population of India. The cow was also worshipped in Babylonia and Egypt about 2000 BC. From these early days to the present, the cow has continued to help man and her help as a source of food has not diminished by the thousands of years which have passed. India is a country of rural people and villages; therefore, the focus of planning should have been on development of this large rural component. India holds a leading position in her cattle population. It is nearly one fifth of the total cattle population of the world. The cattle play a very important role in development

of rural economy; the economic importance of cattle in India is based on the production of milk and other milk products. However, the role of cattle and dairy farming in an economy is assessed on the basis of contribution of cattle production to total agricultural production. Apart from milk, cow dung and urine of cow are good sources of medicines and organic manure, useful for making soil fertile. Generally, cows and buffaloes live on plants and vegetable feeds which man cannot eat or digest. They convert their rough feeds to products useful to man like milk and meat.

Dairy farming is considered as one of the oldest economic activities. In ancient time man, tamed sheep and goats because of limited demand for dairy products. With growth in population, however cows become the major instrument for the supply of these products. In Asia dairying emerged coincident with early civilizations of the Indo-Gangetic plains and the Tigris-Euphrates valleys as evidenced by fossil remains and, recorded history. However, for a long time it remained as an activity subsidiary to crop cultivation (Azam A.M.1981). This is the most common form of dairying practiced in the western countries where milk animals are breed with a view to breeding cattle for better strain and most of the fodder is grown on the dairy land. This type of dairying is mainly found in rural areas of our country where most of feed and fodder is grown on the other farm. Dairying should be one of the most important and profitable agricultural enterprise in India as the demand for quality milk products is increasing. More than half of the India's

population is vegetarian, most of which uses milk. After independence, this type of dairy farming has been well developed in India.

DISCUSSION :

HISTORY : Humans have been drinking milk from cows for thousands of years. Modern dairy farming began in the early 1900's after pasteurization was developed and practiced. Pasteurization allows for a safer product and extends milk's shelf life by eradicating spoilage causing bacteria through the application of heat. This process allows milk to last longer and be shipped further. With more easier access to safe milk, demand increased as did the need for larger farms. These larger farms rely on healthy cows and efficient practices to produce larger amounts of milk and dairy products. While these farms have grown and become more efficient, farmers still focus on reducing environmental impact, producing safe products and keeping their herds healthy and content.

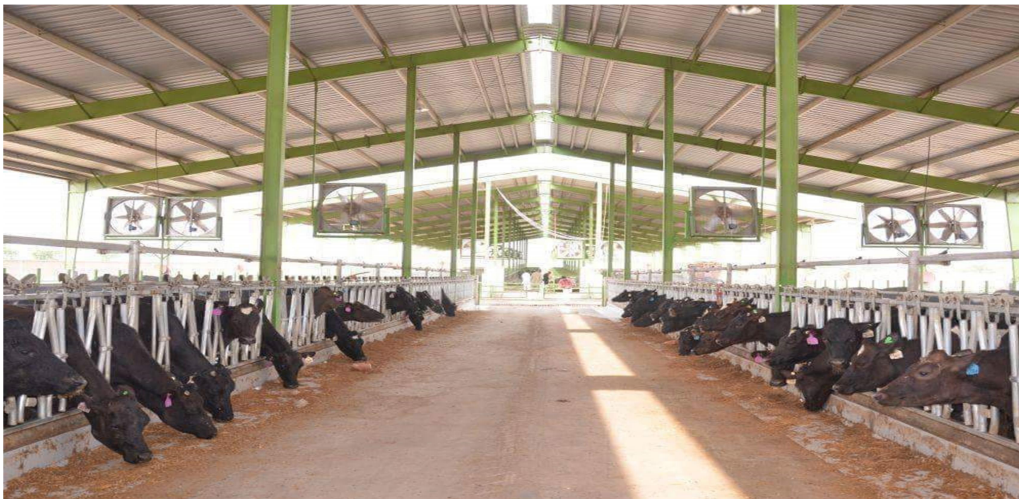
1970 -This year marked the beginning of a government program that would change the face of dairy production in India and our dependence on it. 'Operation Flood' or the 'White Revolution' was the creation of a system of dairy production that included dairy farmers all across the country. The government saw the dairy industry as a means of both boosting employment opportunity and to improve people's access to nutrition.



2000 - Plant-based milks began to emerge to cater to a growing vegan movement and the needs of those who could not consume dairy. In recent years a new concern has been added to the list—the sustainability of the dairy industry. On the one hand, the lives of the cowf knowled.



2020 - Goodmylk locates itself within this history as a brand dedicated to helping people make that switch (partial or complete) to a plant-based diet. We love animals and the planet we share with them, and we are trying our best to make it easier for everyone .



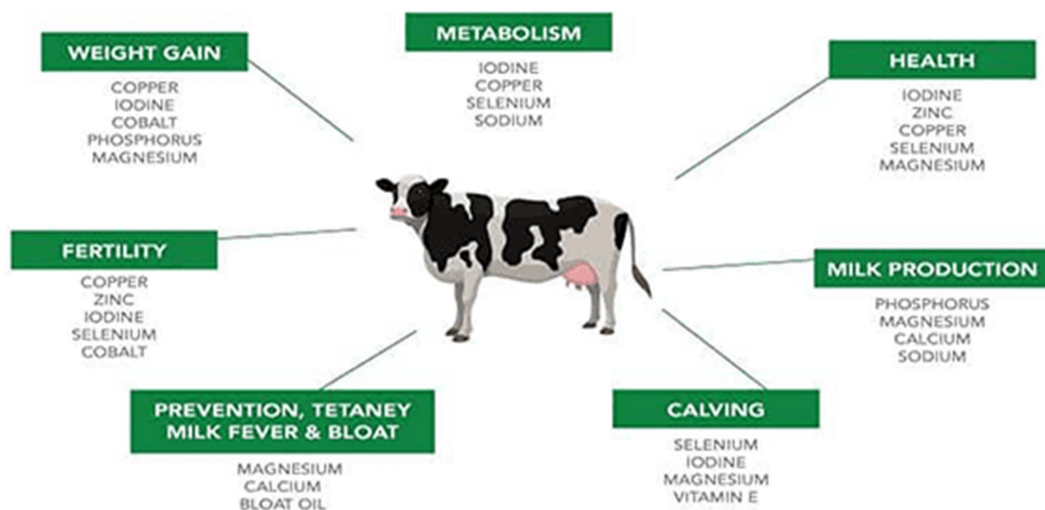
IMPOTENCE OF THE DAIRY INDUSTRY :

> Milk is highly nutritious (milk consists of 80 to 90 % water and supplies the diet with essential vitamins, minerals, fat, proteins and sugars)

> It is important to economic and social development. > It also generates beef from culled animals and veal from young animals not used as replacement stock.

> The industry also provides employment and a source of cash many rural from families.

> Foreign Exchange and by reducing our import bill,we will have a more favorable balance of trade.



BREEDS :

1. Gir - This breed is otherwise called as Bhadawari, Desan, Gujarati, Kathiawari, Sorthi, and Surati. Originated in Gir forests of South Kathiawar in Gujarat also found in Maharashtra and adjacent Rajasthan. Basic colours of skin are white with dark red or chocolate-brown patches or sometimes black or purely red.

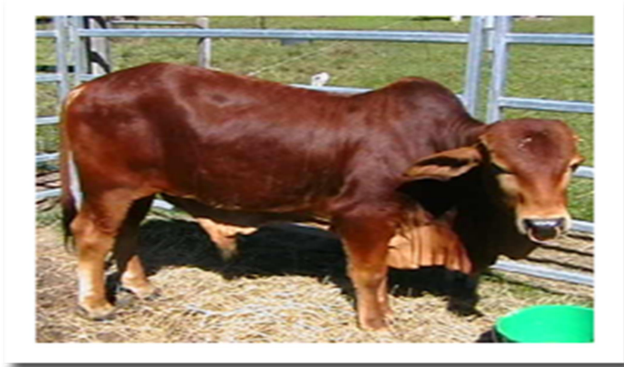


2. Red Sindhi - This breed is otherwise called as Red Karachi and Sindhi and Mahi. Colour is red with shades varying from dark red to light, strips of white. Milk yield ranges from 1250 to 1800 kgs per lactation. Bullocks despite lethargic and slow can be used for road and field work.



3. Sahiwal - Originated in Montgomery region of undivided India. Best indigenous dairy breed. Reddish dun or pale red in

colour, sometimes flashed with white patches. The average milk yield of this breed is between 1400 and 2500 kgs per lactation.



MILK MACHINE USES IN THE DAIRY INDUSTRY:

Dairy machinery encompasses and describes a wide range of machine types that are involved in the production and processing of dairy related products such as yoghurt, ice cream, processed cheese, desserts and is a slightly different genre to pure milking machinery.





CLEAN ON DAIRY INDUSTRY:

‘Clean milk’ refers to raw milk obtained from healthy animals, that has been produced and handled under hygienic conditions, it should contain very small number of harmless bacteria, it should be free from hazardous chemical residues. It should be produced by healthy animal handled by healthy milker in an environment that ensures safety from physical or biological hazard and it must possess a good keeping quality without being heat treated.

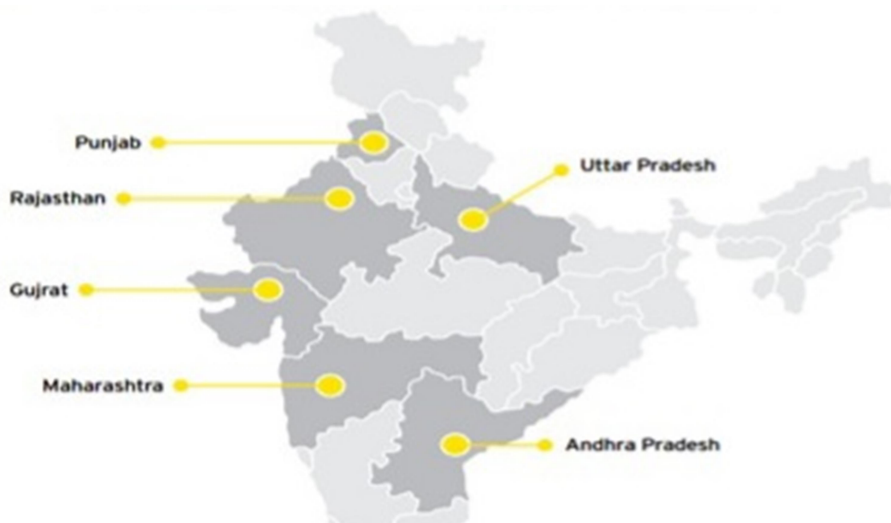
> Housing hygiene & Milking parlor hygiene > Calf hut ,calf pen and calving > Box hygiene & People hygiene > Milking machine hygiene > Animals hygiene during the dry period > Hoof hygiene .



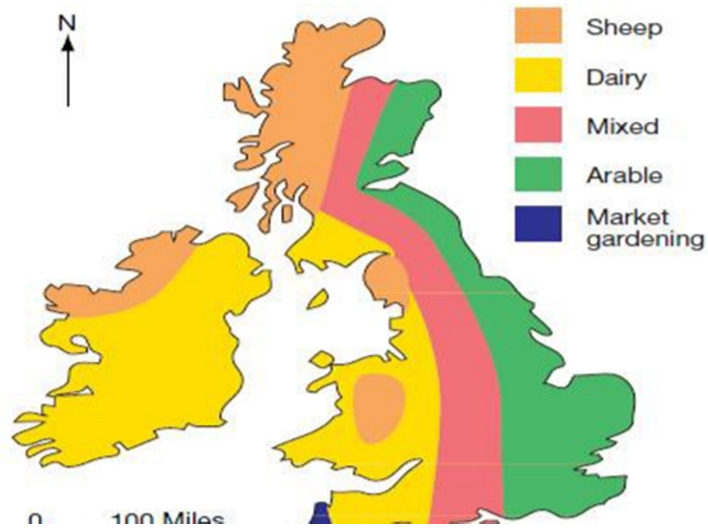
DISTRIBUTION OF DAIRY INDUSTRY:

Regions covered (India) :

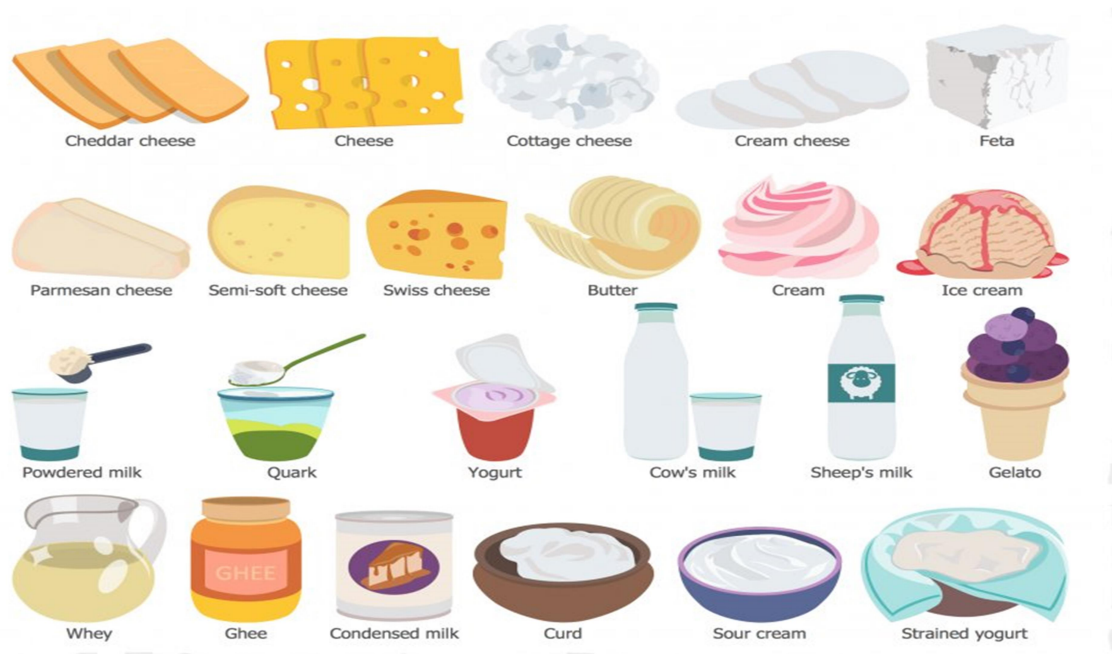
Karnataka, Maharashtra, Tamil Nadu, Delhi, Gujarat, Andhra Pradesh and Telangana, Uttar Pradesh, West Bengal, Kerala, Haryana, Punjab, Rajasthan, Madhya Pradesh, Bihar, and Orissa.



Other countries : Holland, UK , Denmark, USA , Canada, New Zealand, Pakistan, Israel.



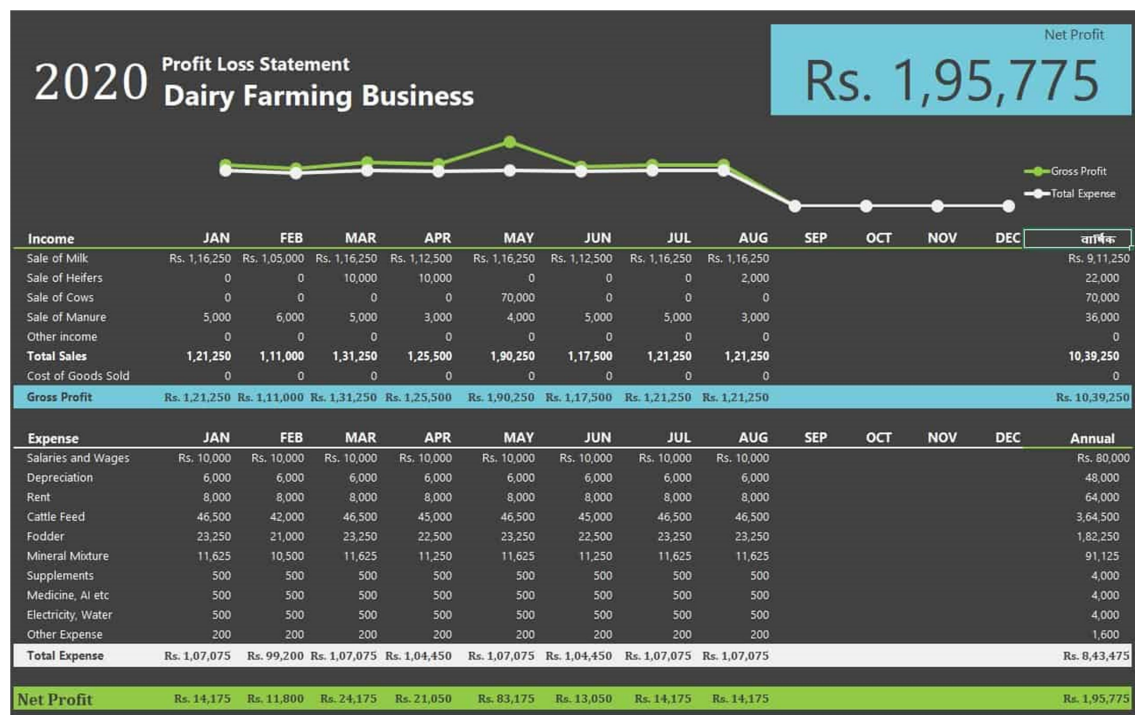
PRODUCTION & PROFITABILITY STATEMENTS :



Item	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Revenue					
Revenue from milk	1,975,000	2,625,000	2,625,000	2,625,000	2,625,000
Revenue from manure	165,000	220,000	220,000	220,000	220,000
Salable animals	0	0	0	150,000	150,000
Gunny bags	1,500	2,000	2,000	2,000	2,000
Total Revenue	2,141,500	2,847,000	2,847,000	2,997,000	2,997,000
Expenditure					
Feed during lactation	572,750	761,250	761,250	761,250	761,250
Feed during dry days	80,500	143,500	143,500	143,500	143,500
Green fodder cultivation	10,000	10,000	10,000	10,000	10,000
Electricity and water	12,000	12,000	12,000	12,000	12,000
Veterinary and breeding	30,000	30,000	30,000	30,000	30,000
Unskilled labour	50,000	50,000	50,000	50,000	50,000
Transportation	24,000	24,000	24,000	24,000	24,000
Insurance premium	36,000	36,000	36,000	36,000	36,000
Total Expenditure	815,250	1,066,750	1,066,750	1,066,750	1,066,750
Net Income	1,326,250	1,780,250	1,780,250	1,930,250	1,930,250

(All figures are in Rs.)

2020 Dairy Farming Business :



RECENT DAIRY DEVELOPMENT IN INDIA :

Developments of Milk Production in India 2020 shows a production volume of 130 percent of that in 2001. Regional Shares of the Indian Milk Production While the Northern region has experienced a decline in its relative contribution to national milk production, the share contributed by the East has increased. The Southern and Western regions have maintained their position.

Development of the Daily Milk Yields

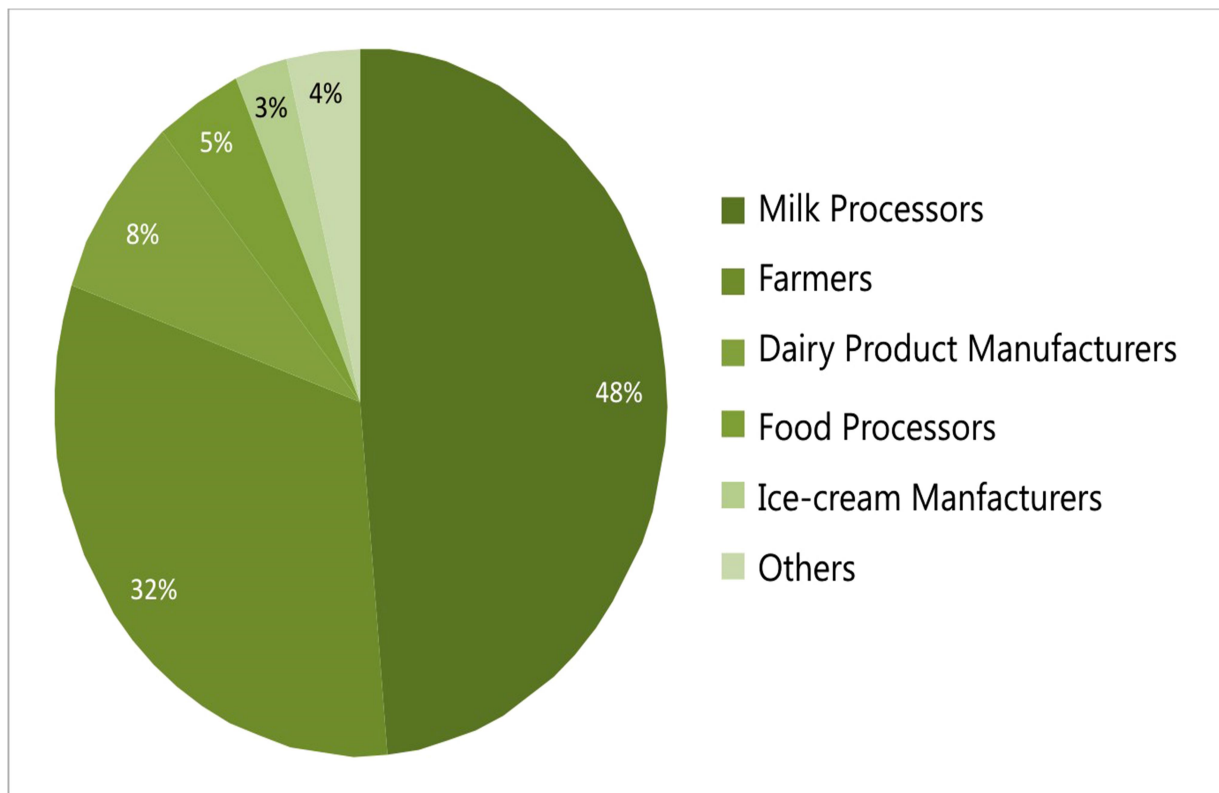
Between 1995 and 2020 daily milk yields have increased at a faster rate for local cattle (+34 percent) and buffaloes (+17 percent) than for crossbred cows, whose daily yields declined by 5 percent in the same period.

Development of the Numbers of 'Dairy Animals'

From 1995 to 2020, the number of local cattle has remained constant while the number of buffaloes and crossbred cows have increased by 10 percent and 50 percent respectively.

Development of Milk Prices

Over the past five years, milk prices in India have decreased from 22 to 18 US\$/ 100 Kg FCM (-18 percent). This decline in milk price is however mainly attributable to the devaluation of the Indian Rupee.



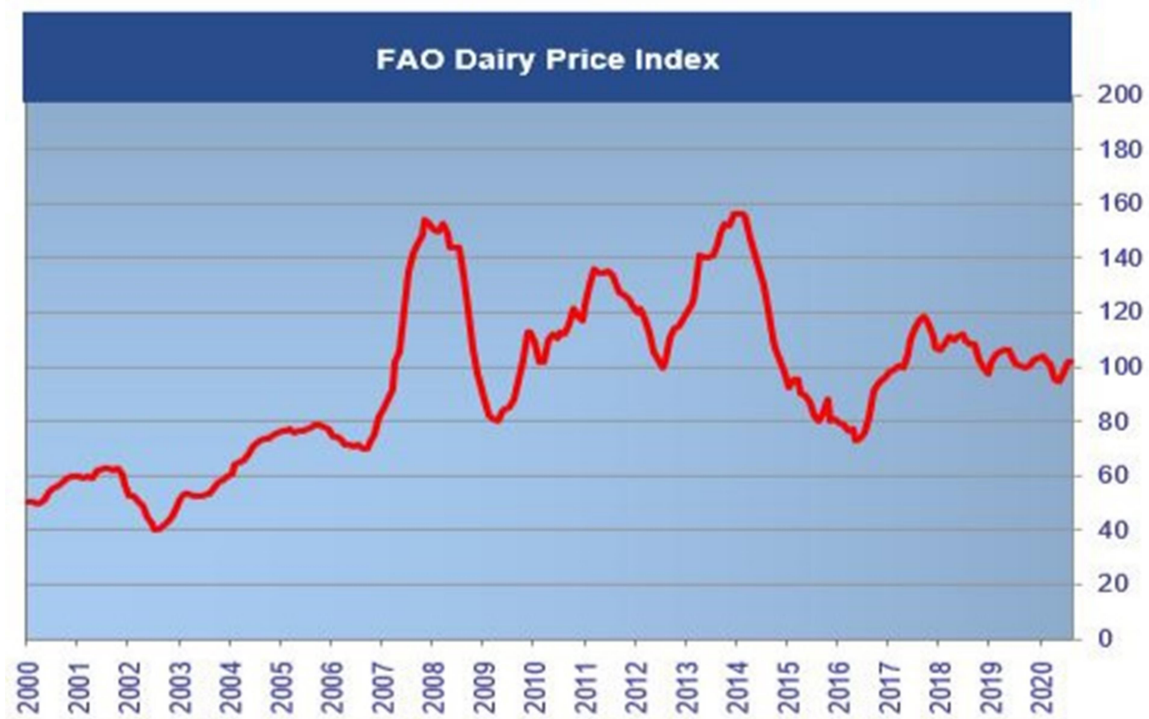
STRUCTURE OF INDIAN DAIRY INDUSTRY :



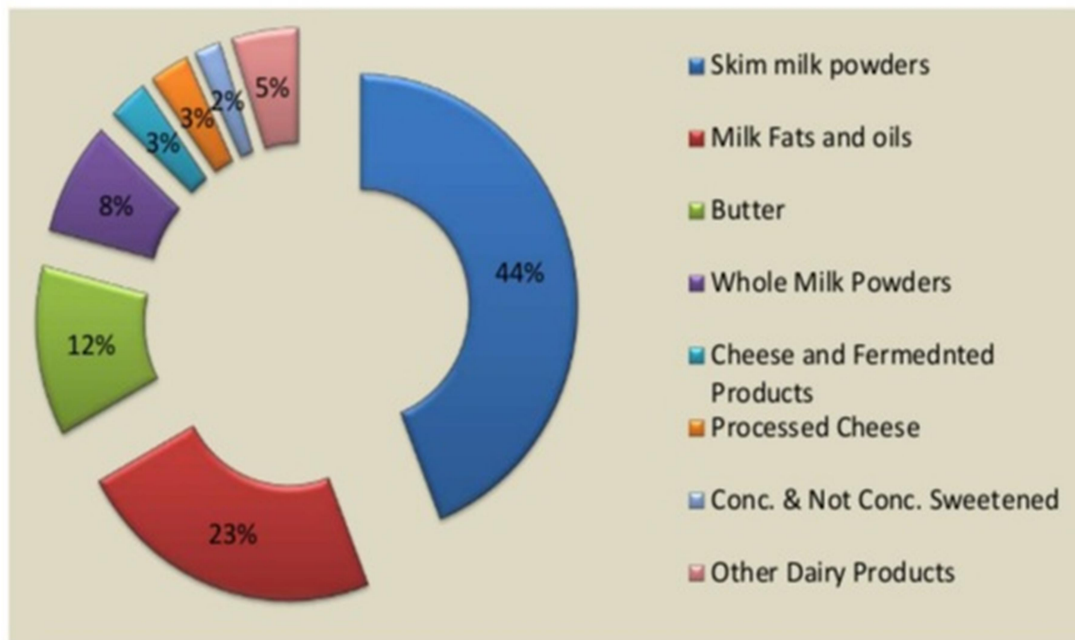
Top 10 milk producers in India

S.No.	Dairy Industry	Production ('000 liters per day)
1	AMUL	2500
2	OMFED, Odisha	1950
3	AP Dairy Development Cooperative Federation Ltd	1500
4	Haryana Dairy Development Cooperative Federation Ltd	1450
5	Dynamix Dairy Industries Ltd., Maharastra	1000
6	Mother Dairy, Delhi	1000
7	Vasundhara Dairy, Nagpur	1000
8	Dudhsagar Dairy, Gujarat	950
9	Hatsun Agro, Chennai	800
10	Sterling Agra, New Delhi	800

FAO DAIRY PRICE INDEX :



PRODUCT EXPORT :



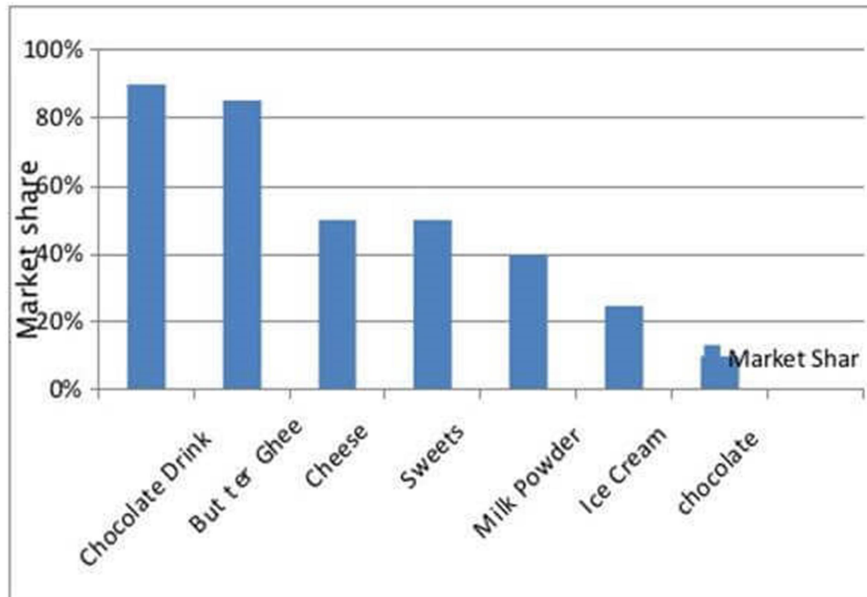
MARKET STRATEGY :

When marketing a dairy product, the most important aspect of your strategy is determining your competition and audience. By establishing these parameters, you can help to flush out what aspect of your dairy business to highlight and where will be the most effective place for you to advertise to capture your target audience. Understanding the dairy business and products thoroughly will help you to discern your advertising assets and weaknesses.

Product

By taking an in-depth look at your dairy products and the process that goes into producing them, your product's advantages will become clear. Look at how the product is created, whether you produce, milk, butter, cheese or any other dairy product. If the cows used are fed only natural, hormone-free feed, this is something you will want to promote. If the owners and operators are third-generation dairy farmers or an extension of a business with deep roots and extensive experience, highlight this in your advertising. Understanding the product, the business and the process will help to form your overall marketing strategy.

Amul – Product Portfolio in Graph



Competition

Take note of your competition, whether it be other local dairy farmers or large, national dairy competitors. Once your product and process research has established your niche in the dairy market you can begin to discern where you fit in. Review your competitors' advertisements to spot and exploit weaknesses. For example, if your products are free of any added chemicals or artificial ingredients but theirs are not, this is something you can highlight in your marketing strategy.

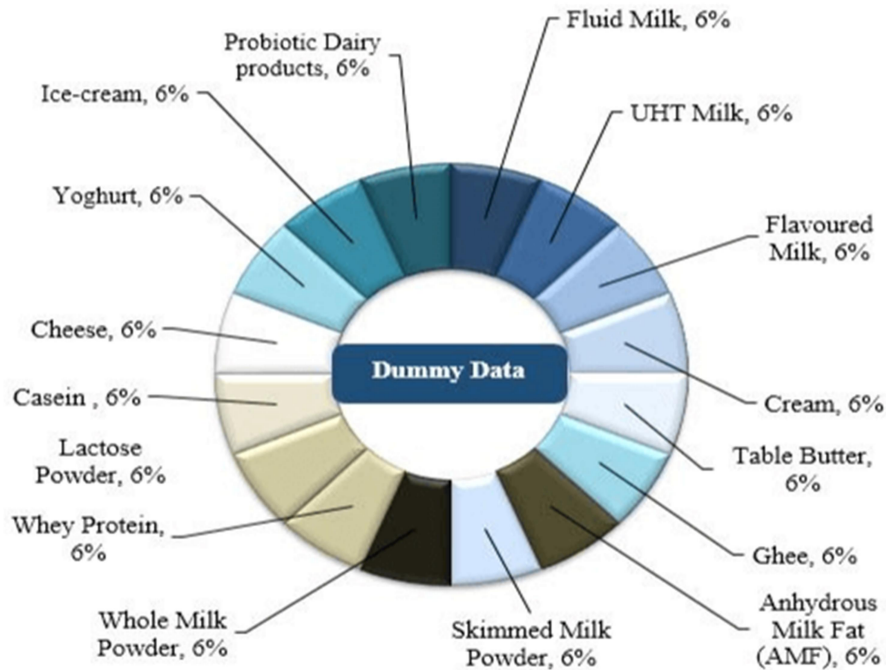
Audience

Discern who exactly you are marketing to and what segment of the market would be most inclined to purchase your dairy products. If your dairy products are produced by hormone-free cows that are free to graze and are provided healthy lifestyles, then you need to determine who these facts will resonate with and who may be willing to pay a little extra for these features. Families in middle to upper income brackets are likely to be your best clientele. Those interested in what goes into the foods and drinks their children consume and willing and able to pay a little more for your natural and chemical free products are likely a good fit.

Advertisements

Craft an advertisement that clearly states in highly visible text the points you want to highlight about your products. Research the places and outlets that are most likely to connect with your target market. For example, setting up a booth and signage at a local farmers market can help to attract a loyal clientele.

Approach local grocery stores about having your product placed in your grocery stores "local" or "natural" foods sections to create a following. Place ads on television stations, websites and publications likely to be visited by the middle to upper class families you are targeting. Use your research to help hone your marketing strategy.



CONSUMPTION :

Milk consumption levels are not uniformly distributed across India, with the people of north-west India being significant consumers, and the north-east populace being comparatively less so. States with higher consumption of meat and eggs are noted to have lesser consumption of milk, as dairy products are one of the few sources of protein for vegetarians. Milk has an income elasticity of demand greater than unity – the consumption increases with the rising income levels of the population.

The per-capita consumption of milk over 30 days was reported to be 4.333 litres for rural households and 5.422 litres for urban households as of 2011–12, with the corresponding monthly

expenditure being Rs 116.33 for rural and Rs 186.47 respectively.

As of 2020, the fluid milk consumption was projected at 67.7 million tonnes, and was noted to be growing by 6–7 million tonnes annually. Ghee is the most consumed among the value-added dairy products. The demand for non-fat dried milk (NFDM) and butter were projected to be 600,000 tonnes and 5.6 million tonnes respectively. Demand for pasteurised milk produced in the formal (organised) sector has been increasing, probably due to its perceived safety over the milk produced in the unorganised sector.



RESEARCH & DEVELOPMENTS :

Agricultural Departments carried out very limited work:

(i) Establishing pedigreed herds of India breeds;

(ii) Studies on composition of milk produced by indigenous cows and

buffaloes,

(iii) Establishing dairy farms by defense department to supply milk to British troops.

NDRI placed under the administrative control of Indian Council of Agricultural Research.

"Indian Dairy Corporation" registered to oversee the

Implementation of "Operation Flood" project (India-WFP Project 618) which was launched on July 1, 1970.

Preliminary work on "Operation Flood II" start.





Government of India is making efforts for strengthening infrastructure for production of quality milk, procurement, processing and marketing of milk and milk products through following Dairy Development Schemes:

National Programme for Dairy Development(NPDD)

National Dairy Plan (Phase-I)

Dairy Entrepreneurship Development Scheme(DEDS)

Support to Dairy Cooperatives

Dairy Processing and Infrastructure Development Fund (DIDF)

CONCLUSION :

Milk and milk products are not only a valued source of nutrition and provide income and employment to a large section of Indian population.

Several years of strategic planning and effective programme implementation by Government as a leading producer of milk in the world.

Dairy scientists and entrepreneur should adopt a holistic approach to product development encompassing new dimensions of value addition , newer processing know how to meet the international quality and safety standards.

Milk production is still low due to the small number of dairy animals, system of production and low demand of milk and milk products. These can be overcome by -

- > Upgrading of indigenous stock.**
- > Development large scale farms and having an effective extension system.**
- > Creating effective demand for consumption and promoting investment in processing.**
- > Creating conducive environment to guarantee investment of their investments and regulate the industry.**

REFERENCE :

<https://www.thoughtco.com/dairy-farming-ancient-history-171199>

**Http://www.delaval.ca/-/Product-
Information1/Milking/Products/Stallwork/Herringbone-
stalls/DeLaval-herringbone-HDHB/**

**http://www.delaval.ca/-/Product-
Information1/Milking/Products/Stallwork/Herringbone-
stalls/DeLaval-herringbone-HDHB**

<http://www.ansci.cornell.edu/pdfs/04101.pdf>

<http://www1.extension.umn.edu/dairy/calves-and-heifers/milk-replacer-feeding-and%20management.pdf>

**http://www.nuffieldinternational.org/rep_pdf/1279190281Nuf
field_final_report_Lameness_in_Dairy_Cows_Jo_Speed.pdf**

<https://hoards.com/article-22687-dairy-farm-numbers-hover-near-40000.html>