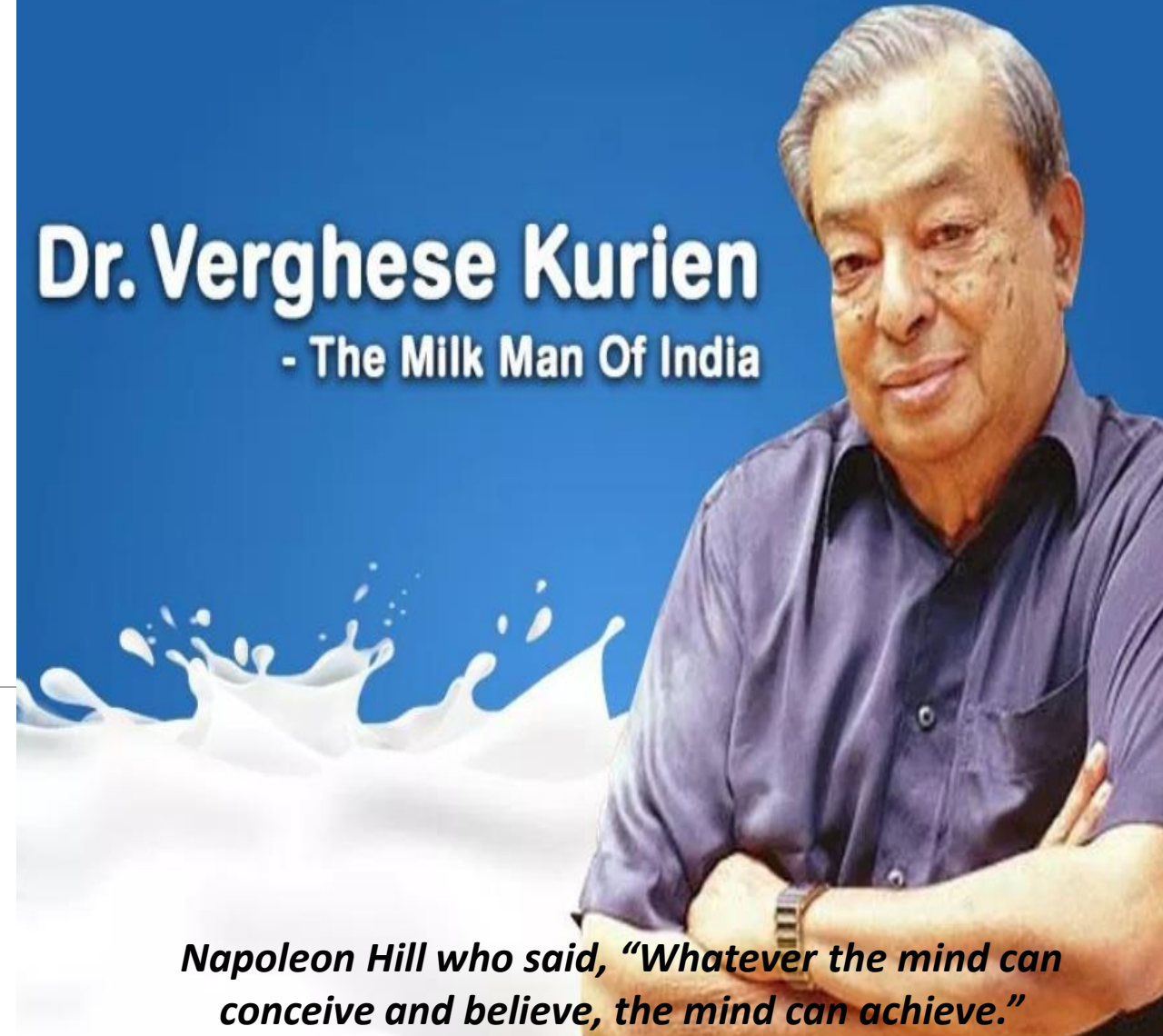


Social Innovation and Strategy of Dr. Verghese Kurien in the Success of White Revolution

Dr. Verghese Kurien
- The Milk Man Of India



Napoleon Hill who said, "Whatever the mind can conceive and believe, the mind can achieve."

Social Innovation

- Social innovation is concerned with the development of creative and practical solutions to complex social problems.
- To be successful, the social innovation must satisfy the need of the people
- One of the most successful examples of the application of social innovation in practice, which was sustainable, had business-like approach, and achieved significant positive socio-economic change is, Amul and Operation Flood.

The AMUL Story

- In 1946, the Bombay State government established the Bombay Milk Scheme, took over the administration and awarded monopoly rights for milk procurement in Kaira District to Polson.
- The arrangement was satisfactory to all concerned except the farmers, as the benefits of high price being paid by the government were not likely to be passed on to the producers which led to strong opposition in the district.
- Shri Sardar Patel advised the farmers to market their milk through their own co-operative and sent Shri. Morarjibhai Desai to Kaira District to organize milk co-operative.
- Led by Shri Tribhuvandas Patel, Kaira Districts Milk Producers' Union Limited was established On 14th December, 1946 and Anand Pattern of Dairy Cooperatives was evolved.

Beginnings in Anand

- The plight of the farmer
- The Exploitation of the Farmer
- Illiterate and hard working
- Depended totally of the forces of nature –
weather, soil condition and seasonal erratic
production of produce
- Unsure of their markets



The AMUL Story

- In 1949 Dr. Verghese Kurien joined Kaira District Co-operative Milk Producers' Union (KDCMPUL) and built it into one of the largest and most successful cooperative institutions in India.
- Kaira Districts Milk Producers' Union Limited registered the brand name "Amul" in 1957 and the advertising campaign was started in 1966. Amul's sale figures have jumped from 1000 tonnes a year in 1966 to over 25,000 tonnes a year in 1997.
- The 'Amul girl' and a simple yet catchy phrase "Utterly Butterly" was created in the same year, the theme and style of which remains unchanged for more than 50 years now.
- To combine forces and expand the market while saving on advertising and avoid competing against each other, the GCMMF (Gujarat Co-operative Milk Marketing Federation Ltd), an apex marketing body of Gujarat district cooperatives, was set up in 1973.
- Brand name Amul was transferred to GCMMF.



The AMUL Story



Opening of the Powder plant
in October 31, 1955



The Dairy in Anand

The AMUL Story

Amul meant different things to different people :

To a Milk Producer ... A life enriching experience

To a Consumer ... Assurance of having wholesome milk

To a Mother ... A reliable source of nourishment for her child

To the Country ... Rural Development and Self Reliance



The Taste of India

Acronym for

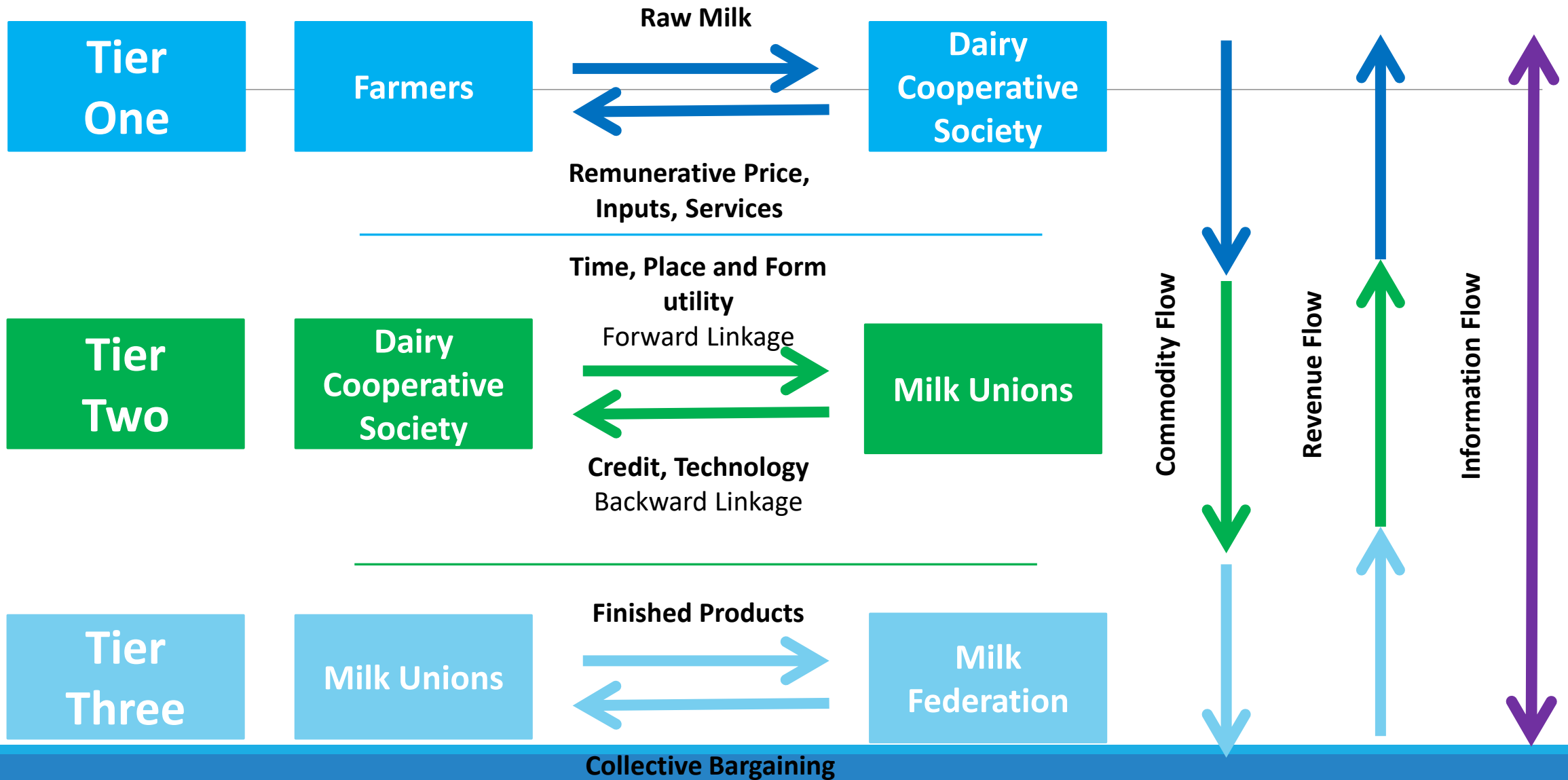
Anand

Milk producers'

Union

Limited which means "Priceless"

Anand Pattern of Dairy Cooperatives



GCMMF (Amul) Today

Year of Establishment	1973
Members	18 District Cooperative Milk Producers' Unions
No. of Producer Members	3.6 Million
No. of Village Societies	18,554
Total Milk handling capacity per day	35 Million Litres per day
Milk collection (Daily Average 2018-19)	23 Million Litres per day
Cattle feed manufacturing Capacity	9200 MTs per day
Sales Turnover in 2018-19 (Rs. Crore)	33,150 (US\$ 4.8 Billion)
Profit after tax (Rs. Crore)	47

Source: GCMMF Website



Operation Flood/White Revolution Strategy: Classical Case of Social Innovation



OPERATION FLOOD

"Operation Flood can be viewed as a twenty year experiment confirming the Rural Development Vision"

– World Bank

The Billion-Litre Idea



➤ Then Prime Minister of India, Shri Lal Bahadur Shastri visited Anand on 31st October 1964, he spent a night with farmers of Kaira and experienced the success of Amul

Dashy informed. A highly modern dairy industry
Lal Bahadur
31.10.64

SHRI LAL BAHADUR SHASTRI
PRIME MINISTER OF INDIA

➤ He then expressed his wish to Kurien, of replicating Amul model throughout our country.

➤ In 1965, the National Dairy Development Board (NDDB) was created to replicate the success of 'Amul Pattern of Cooperatives' all over the country under the "extraordinary and dynamic leadership" of Kurien.

➤ Launched on 4th March 1970 by NDDB, "Operation Flood / White Revolution" was the world's largest rural development programme under the stewardship of Dr. Kurien, which turned India into the largest milk producer in the world.

The Billion-Litre Idea

- In the Operation Flood programme, the rural farmers' cooperatives were organized at the village level and connected to the urban consumers in the form of a Milk Grid linking producers to over 700 markets
- Implementation of Operation Flood was in phases but in a completely decentralized manner. (I Too Had a Dream...pp 124)
 - **Village** — **DCS** (Distributed Controlled System) - Procurement
 - **District** — **Milk Union** - Processing
 - **State** — **Milk Federation** — Marketing
 - **National** — **Federation of Federations** — Coordination, Networking, Advocacy

Operation Flood – I (1970 – 1980)

- In February 1970 Govt. of India setup Indian Dairy Corporation to receive the gifts, generate funds by their sale and disburse the funds to implement Operation Flood (I Too Had a Dream, pp 121)
- Implemented with the seed capital raised from the sale of European Economic Community (EEC) gifts (skimmed milk powder and butter oil) and World Bank Loan of Rs. 200 crore
- NDDDB planned the programme and negotiated the details of EEC assistance.
- During this phase, Operation Flood linked 18 of India's premier milksheds with consumers in India's four major metropolitan cities: Delhi, Mumbai, Kolkata and Chennai.
- National Cooperative Dairy Federation of India (NCDFI) was also established in 1970 for Coordination and Networking to minimize conflict and competition among state cooperatives.
- Other cooperatives Verka (1973), Nandini (1974), Milma (1980) etc. also emerged

Operation Flood – II

(1981 – 1985)

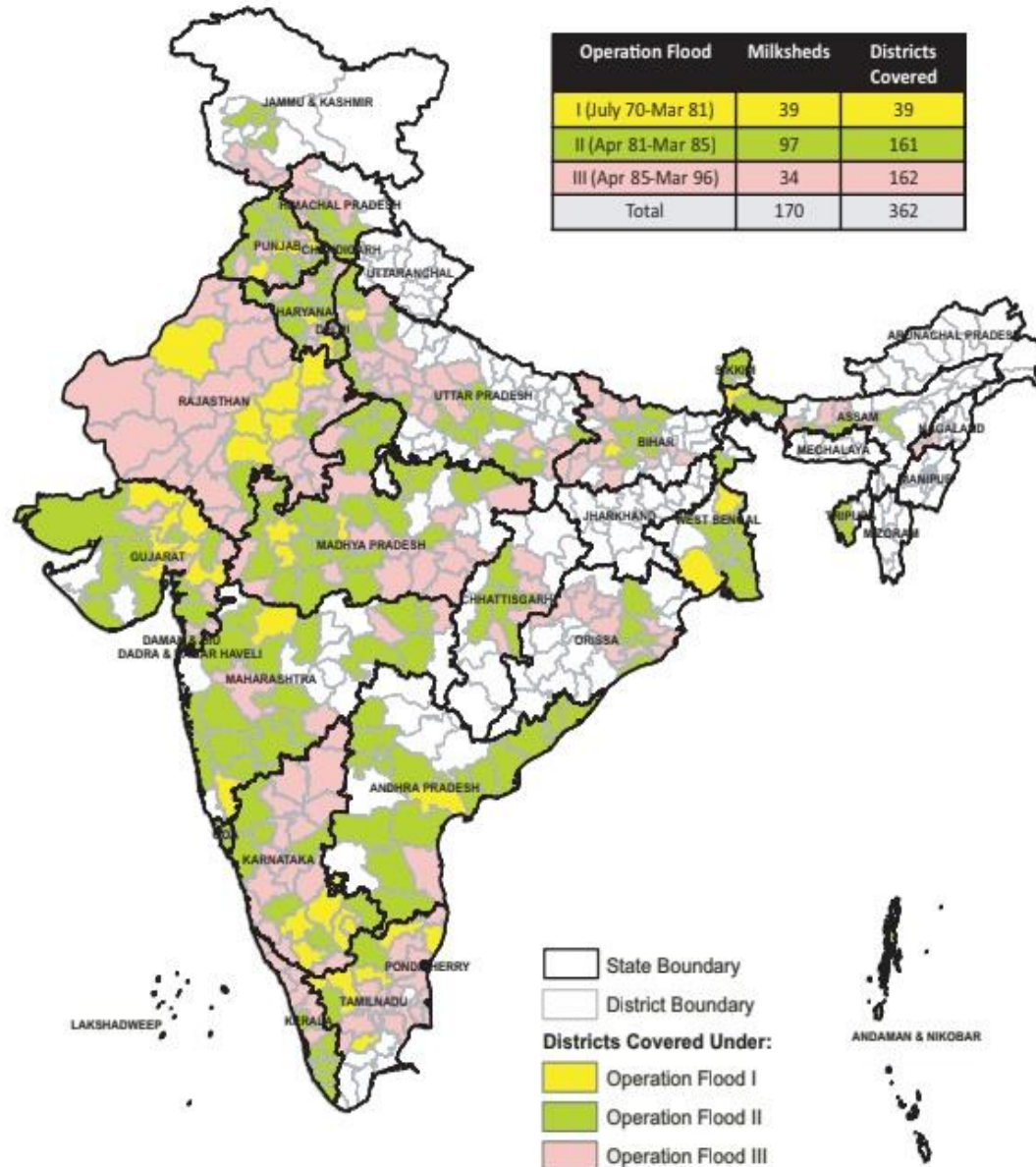
- Operation Flood's **Phase II** increased the **milksheds** from **18** to **136**;
- **290 urban markets** expanded the **outlets** for milk.
- By the end of **1985**, a **self-sustaining system** of **43,000 village cooperatives** covering **4.25 million milk producers** had become a reality.
- **Domestic milk powder production** increased from **22,000 tons** in the pre-project year to **140,000 tons**, all of the increase coming from dairies set up under Operation Flood. In this way **EEC gifts** and **World Bank loan** helped to promote **self-reliance**.
- **Direct marketing** of milk by producers' cooperatives increased by **several million litres a day**.

Operation Flood – III

(1985 – 1996)

- This Phase **enabled** dairy cooperatives to **expand and strengthen** the **infrastructure** required to **procure and market** increasing volumes of milk.
- **Veterinary first-aid health care services, feed and artificial insemination services** for cooperative members were extended, along with **intensified member education**.
- It consolidated India's dairy cooperative movement, adding **30,000 new dairy cooperatives and Milksheds peaked to 173** in 1988-89 with the numbers of **women members** and **Women's Dairy Cooperative Societies** increasing significantly.
- Gave increased **emphasis to R&D** in animal **health and nutrition**, Innovations like **vaccine**, bypass protein feed and urea-molasses mineral blocks, contributed to the **enhanced productivity** of milch animals.

Spread of Operation Flood Programme



Impact of Operation Flood Programme

State Federations	27
Milk Unions	218
Dairy Cooperative Societies	1.77 Lakh
Farmers Members	163 Lakh
Total Milk production	176 MMT
Per capita Availability of Milk	375 gm

Source: NCDFI and NDDB Website

Infrastructure - Cross breeding, Veterinary Support, Cattle feed, Vaccine etc.

First **Intensive Cattle Development Project**, as per Government of India model scheme established in Gujarat **since 1965** to take up **cross breeding** of day animals

IDMC Limited was set up in **1978 to manufacture dairy equipment** and components and to contribute in moderating their prices. It became a wholly owned subsidiary NDDB in 1992.

NDDB has also assisted dairy cooperatives in **setting up 70 cattle feed plants, 19 bypass protein plants and 35 mineral mixture plants.**

Then NDDB also established **Indian Immunologicals** as a unit in **1982** with the objective of manufacturing **vaccines** (like Foot and Mouth Disease (FMD) vaccine) and providing to customers at an **affordable price.**

IIL in 1999 at the request of the Government of India entered into the manufacture of **human vaccines** with its first product **anti-rabies vaccine.**

Technology for Milk Powder From Buffalo Milk

- Experts from around the world were of the opinion that it was not possible to make milk powder from Buffalo milk due to its relatively viscous nature.
- Dr. Verghese Kurien was desperate to make milk powder as almost all the milk collected by Amul was buffalo milk at that time.
- Dr. Kurien with the help of Mr. H.M. Dalaya demonstrated to UNICEF that making milk powder from buffalo milk was possible using a second hand powder making plant
- Mr. Dalaya then went to Denmark and by the next year developed a machine called as Niro Atomizer especially for buffalo milk. Making powder from buffalo milk was now a dream realised.

Transporting Milk by Rail and the Insulated Trucks, and Network Connectivity of the Milk Grid

- The tankers were loaded with pasteurised milk cooled to 2 °C, after 40-hour journey from Anand to Calcutta (now Kolkata), the temperature of the milk would be 4 °C.
- As milk procurement picked up, the movement from hinterland feeder and feeder-balancing dairies included other large metros such as Bangalore, Madras (now Chennai) and Bombay (Mumbai).
- Thus, the NMG successfully linked milk producers in far-flung villages of various states and consumers in the metros. The NMG became the most significant tool of Operation Flood
- Today the system comprise of tankers carrying liquid milk, wagons carrying dry dairy products, and specially designed refrigerated wagons to carry ice cream, butter, cheese, paneer, dahi, chhachh and other dairy products that need to be kept cool for longer distances and periods.

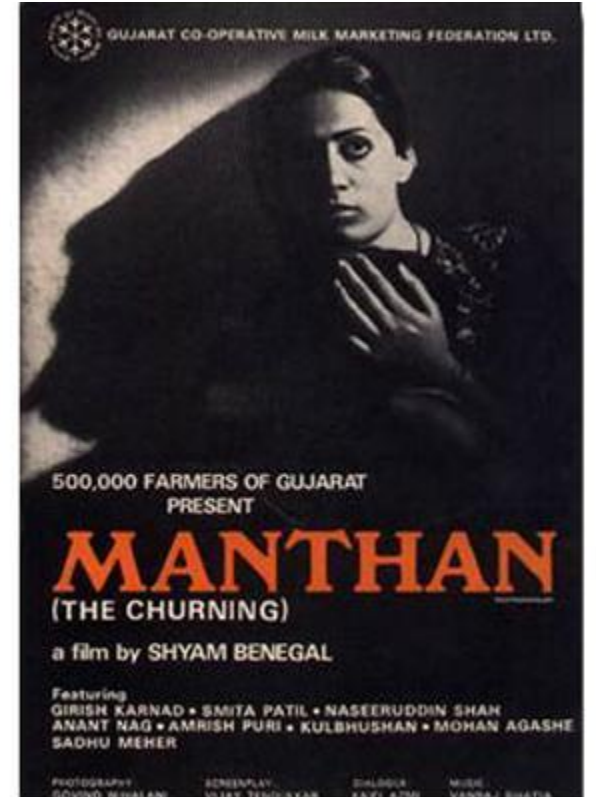
Institute of Rural Management Anand (IRMA)

- Dr. Kurien recognized that professional management can bring about the visible socio-economic impact to an underserved segment.
- This thought inspired him to establish the Institute of Rural Management Anand (IRMA) in the year 1979 with an aim to create a new generation of professional managers who would bring in modern management to serve the underserved economy.
- It was established with the support of the Swiss Agency for Development Cooperation (SDC), the Government of India, Government of Gujarat, the erstwhile Indian Dairy Corporation and the National Dairy Development Board (NDDB).

“My reasoning was even if only a handful of students each year from such an institute (IRMA) could grow, evolve, stride out into the world and, perhaps build some more Amuls, what a boon it would be for our rural people and for the nation.”

Crowd Funding

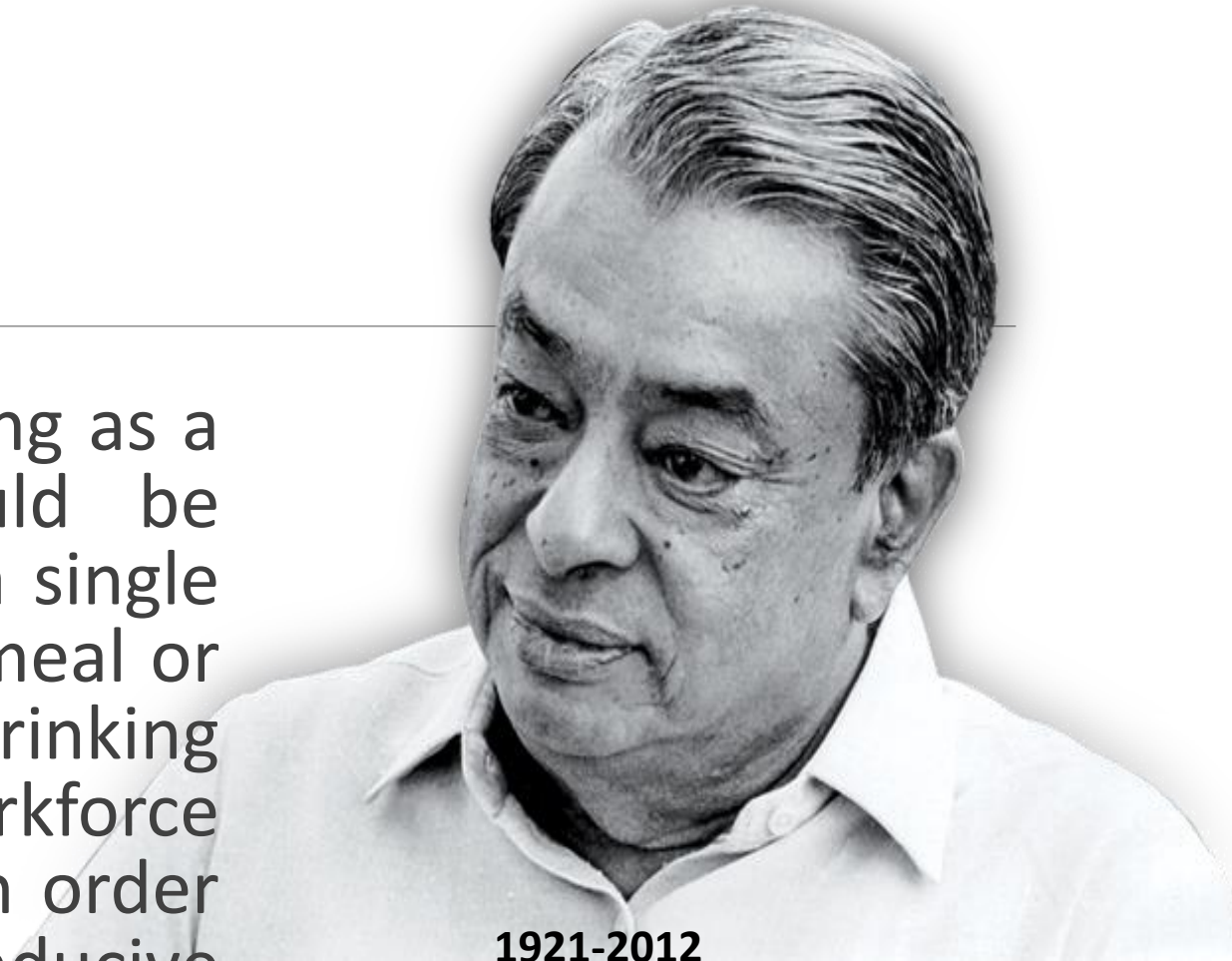
- Dr. Kurien wanted to Spread Cooperative movement across the country and found movie an effective medium
- He then requested the farmers to pay Rs 2 to produce “Manthan”.
- Based on ‘White Revolution’, Manthan was the world’s first crowd-funded movie, with the largest count of individual investors (5 lakh farmers)
- The film won the 1977 National Award for Best Feature Film in Hindi, as well as millions of hearts!



Success of Operation Flood / White Revolution as a Social Innovation

- Marketing was the **Dominant Orientation** of the Project as a whole
- World Bank's investment of **Rs. 200 crore** in the project resulted in the **Net returns of Rs. 24,000 crores each year** over a period of **ten years** into India's rural economy. (World Bank, 1998)
- The system **ensured** that the **producer gets a major share of 84%** of the the consumers' rupee went back to the producer by **eliminating middlemen**.
- Dairying became an **instrument of development, generating employment and regular incomes for millions of rural people**.
- **Dr. Verghese Kurien** created a **model** for **future generation social innovators and entrepreneurs**.
- He became known as the **Father of White Revolution** and he has demonstrated the quality of **social innovation and entrepreneurship**, to bring up the **wellbeing of rural people**.

My father believed that India is emerging as a world power, but its success would be measured when we should **NOT** have a single person who cannot afford one square meal or education for his children or drinking water... Therefore it is now for the workforce of our country to dedicate their lives in order to provide a more equitable society conducive also for the development of our lesser privileged, and to make our nation a better place to live for all its citizens.



1921-2012

