



Keynote Address



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I am delighted to be here in the historical city of Patliputra, now known as Patna, one of India's oldest cities with a rich history dating back over 2,500 years. Situated on the banks of the Ganges River, it was once the capital of the mighty Mauryan Empire and a major centre for education, culture and trade in ancient India. Bihar has made significant contributions to ancient Science, the emergence of new religions, Independence movement, social justice and has produced pioneers in various fields over time. Bihar's vibrant cultural heritage, including its festivals, cuisines, traditional arts and dairying continues to shape the identity of its people. Dairying has been a cornerstone of the local rural economy providing livelihoods and a steady income for lakhs of dairy farmers. Today, Bihar is among the top milk producers in India with production reaching about 130 lakh tonnes in 2023-24 and contributing 5 percent to the national milk production. The Bihar State Milk Cooperative Federation (COMFED), has played a pivotal role in dairy development in the State and its brand "Sudha" becoming a household name synonymous with

milk in Bihar. It is also the largest dairy Federation in the entire Eastern and North Eastern Region, representing over 60 percent of the procurement volume in the region.

It is indeed an honour to stand before you and have this opportunity to deliver the Keynote Address today at the 51st Dairy Industry Conference (DIC) here in Patna on the theme **"Indian Dairying: Global Growth; Local Strength."** This topic is crucial to all our efforts and is vital in taking our dairy sector to the next level along with the economic and social well-being of crores of our dairy farmers. Patna last held the DIC six years ago in 2019. In these six years, the country's milk production has grown by almost 500 lakh tonnes, which is roughly equal to more than twice the amount produced by New Zealand !

As a result of our continued collaborations and combined efforts, we have reached a point where there are immense possibilities and unlimited potential for a very promising future. What gives me confidence that we will soon realise our full potential and satisfy our global ambitions due to the rapid strides we have taken, especially in the last few years. This 51st DIC, held in the year 2025 also coincides with the "International Year of the Cooperatives" designated by the United Nations with a theme of "Cooperatives Build a Better World." This recognition acknowledges the role cooperatives play in reducing poverty, creating jobs, and promoting social integration across the World. It also highlights the cooperative business model as a way to address persistent global challenges and one of the best pathways to achieve the Sustainable Goals or the SDGs. A few months ago, in November 2024, the International Cooperative Alliance's (ICA) Global Cooperative Conference was held in New Delhi, marking the first time in its 130-year history that the conference was held in India. This event also signifies our growing global contribution and stature in the global cooperative sector.

The story of Indian dairying is one of inspiring transformations, from a country that was once dependent on imports for its milk supply to becoming the largest producer of milk in the world. Currently, with milk production reaching 239 million tonnes, India alone contributes a quarter to the global output. Today the milk produced in the country is valued at Rs 11.16 lakh crore, making it the largest agricultural produce by value, even surpassing the combined value of cereals, pulses and sugarcane.

Dairying has had multifarious benefits leaving an indelible mark on the rural milieu of our country- ensuring



nutritional security for more than 140 crore people and at the same time providing livelihood, financial freedom and social empowerment right at the grassroots level. Dairying has been a major source of employment, particularly for women and has been at the forefront of women's empowerment. We are now moving towards women-led dairying with more and more women taking on key leadership roles and the establishment of many all-women dairy institutions nationwide. I am proud to announce that two women leaders, Hemaben and Jagrutiben, from Mujkuva Sakhi Khad Sahkari Mandali Ltd at Anand district, the first of its kind khad mandali, are emerging as torchbearers of innovative, women-led rural livelihood initiatives that have a positive impact on the environment. They have pioneered the art of transforming dung into wealth, achieving a significant milestone in sustainable agricultural practices. Both of them have been instrumental in spreading the National Dairy Development Board's (NDDDB's) biogas and organic fertiliser model nationwide. Their hard work and dedication have been acknowledged with a prestigious invitation to the 'At-Home Reception' on the occasion of the Republic Day 2025 at Rashtrapati Bhavan by the Hon'ble President, a true testament to their inspiring contributions.

The development of India's dairy industry and the outstanding contribution made by dairy cooperatives since Operation Flood (OF) have been key components of the nation's incredible post-independence growth narrative. OF was followed by several large scale dairy development programmes such as Perspective Plan and National Dairy Plan-I (NDP-I). Since NDP-I, we have continued to implement many large-scale programmes like the Rashtriya Gokul Mission (RGM), National Livestock Mission (NLM), National Digital Livestock Mission (NDLM), Nationwide Artificial Insemination Programme (NAIP) etc. in collaboration with the Government.

Today, about 8 crore rural households are engaged in milk production, with 85 percent of them being landless people and small and marginal farmers. In addition to helping farmers achieve self-sufficiency, cooperative organisations have also lifted the constraints imposed by caste, gender, religion, and community. This remarkable journey has been made possible through the collective effort of farmers, cooperatives, scientists, policymakers and multiple institutions like ours that have worked tirelessly towards this goal.

Looking ahead, factors such as growing urbanisation, rising disposable income, increasing health awareness and the popularity of value-added dairy products, along

with the growing involvement of the private sector, indicate significant growth potential in the dairy industry. In addition, the long standing tradition of milk and milk-based products being integral part to Indian diet further supports promising outlook for business opportunities in the years to come.

Local Strength

Let me start with the strong foundations that we have painstakingly created over several decades. These foundations now serve as the pillars of our strength, upon which we can build the future of our dreams. The success of Amul led to establishment of NDDDB in 1965, at the request of the then Prime Minister Shri Lal Bahadur Shastri. He expressed his desire to spread the "Spirit of Anand" throughout the nation. This vision quickly evolved into a national movement, with the results visible to all today.

Strength: Dairy Cooperatives

Over the past 7 decades, the dairy cooperatives have worked tirelessly to create an extensive dairy value chain. This chain involves collecting crores of litres of milk from producers in villages, processing it, transforming it into a variety of nutritious dairy products and delivering it to consumers in over 6,000 cities every day of the year constantly. One of our key strengths is our ability to connect consumers with geographically dispersed producers, even in challenging climatic conditions.

Over the years, dairy cooperatives have mastered the art of milk aggregation, processing and distribution. They have successfully established one of the most efficient dairy value chains in the world, operating on wafer-thin margins and keeping dairy remunerative for crores of small and marginal dairy farmers. Even though most of these farmers own only two to three cows or buffaloes, they are the backbone of the cooperatives, a source of inspiration and the foundation of our local strength and unique dairying model.

The dairy cooperatives in India pass on an average of 75-80 percent of consumer spending back to the dairy farmers, which is highest in the world and also the greatest among any agricultural commodity in India. Last year, dairy cooperatives together paid back about Rs 95,000 crore, equivalent to pumping about Rs 260 crore into the rural economy each day, a feat unmatched by any other sector. This is undoubtedly one of our biggest strengths and the reason for envy among many foreign dairy players who have been trying extremely hard to establish a base in India but have not succeeded.



We are continuously expanding our network and capacities. The average procurement levels of cooperatives are now reaching about 650 lakh kilograms of milk each day and we expect that it will hit the 1,000 LKgPD mark pretty soon.

Strength: Local Breeds

Another great local strength we have is our breeds. We are extremely lucky to have magnificent Indian indigenous breeds such as Gir, Sahiwal, Ongole, Rathi, Murrah, Banni, Jafrabadi to name a few. These breeds are resilient, well-adapted to local conditions like harsh climate, and hold immense potential for further genetic improvement. Having played a pivotal role in shaping the country's dairy and livestock economy they are invaluable to the dairy sector. Gir and Sahiwal are among the best dairy cattle breeds in the world. They are known for their high milk yield, with Sahiwal producing milk with a high butterfat content, making it ideal for ghee and butter production. The Murrah buffalo is globally recognized for its superior milk production capacity, with milk rich in fat and protein. These breeds are naturally suited to India's varied climates, from hot and arid regions to humid and tropical areas. They are resilient to local diseases and parasites, reducing the dependency on extensive veterinary interventions. Indigenous breeds have a longer productive lifespan compared to many exotic breeds, making them cost-effective for farmers. In addition to milk production, many Indian breeds are also excellent for draught power, assisting in ploughing fields and other agricultural tasks. These breeds are integral to traditional farming practices and are revered in various cultural and religious contexts, which encourages their conservation. A pure Ongole Cow was recently sold for Rs 40 Crore at an auction in Brazil for its superior qualities and earned a place in the Guinness book of world records. Just imagine if we conserve, propagate, breed and provide proper nutrition to our fantastic breeds, what not can be achieved. If it can be done in Brazil, then why not in India? We are putting in efforts through RGM Scheme and I would urge other stakeholders to also take up such efforts for the breeds of their native tract found in their regions.

Strength: Innovation

Our ability to find ingenious solutions to local challenges through innovation is also one of our biggest strengths. We have always encouraged creativity and fostered innovations to unearth novel solution to indigenous contemporary issues facing the Indian dairying. From manufacturing milk powder from buffalo milk for the first time in the World to using given goods to finance the first White Revolution, the list could be endless. We

have increasingly started using milk trucks on trains in place of rail milk tankers which is proving to be more efficient in transporting milk over long distances. Some more include the development of quick chillers, BMCs, bulk vending machines, and pouched milk, to name just a few. We need to continue this in mission mode following Kaizen principles to achieve constant improvements.

The most pressing need for intervention is in the realm of animal productivity. NDDDB took proactive measures to introduce genomic selection nationwide by integrating DNA level data and field performance records. This initiative aims to expedite genetic advancement through early animal selection. Through the RGM and Gujarat Biotechnology Research Centre (GBRC) funded genomic selection projects, an increasing number of animals and bulls have been genotyped with performance recording to expand the reference population. Genomic Breeding Values (GBVs) have been shared with farmers to aid in the selection of heifers and bulls.

Recently, Hon'ble Prime Minister dedicated two genotyping chips, GAUCHIP and MAHISHCHIP, to the nation. These chips were developed by NDDDB in collaboration with BAIF, NIAB and NBAGR for genotyping cattle and buffaloes. The use of genomic selection, facilitated by these chips, will help farmers in early selection of heifers and thereby improving their herds. Selection of bulls based on Genomic Breeding Values will help accelerate genetic progress of population through AI.

The Hon'ble Prime Minister also launched GAU SORT - an Indigenously Developed Sex-Sorting Technology. The indigenously developed sex-sorting machine, GAU SORT, is now fully functional and ready for use. The technology was previously monopolised by multi-national companies. With this advancement, the cost of a sex-sorted semen dose will decrease from Rs 800 to Rs 250-300 per dose. This will enable farmers to get more replacement heifers from elite animals.

The most recent assisted reproductive technology, known as In Vitro Fertilisation and Embryo Transfer (IVF-ET), is also being used to help elite bovines multiply more quickly. Imported culture medium is one of the main expenses associated with IVF. Another important step that NDDDB, in collaboration with Indian Immunologicals Ltd (IIL) has undertaken is the development of an indigenous Ovum Pick-up-In Vitro Embryo Production-Embryo Transfer (OPU-IVEP-ET) culture media suite. This contains five different media used throughout the entire process of IVEP. Using an indigenously developed solution has resulted in about a two-thirds reduction in

cost, which is expected to bolster its acceptance in the Indian dairy farming landscape. Our initiatives in genomic selection, adoption of sex-sorted semen and embryo transfer technologies exemplify our commitment to adopting a proactive approach to drive the genetic improvement of dairy animals.

Apart from enhancing genetic capabilities, improvements in nutrition and health will go a long way in increasing productivity of our cattle and buffaloes. Under the National Livestock Mission, NDDDB has facilitated dairy cooperatives in producing high-yielding fodder seed varieties. NDDDB has been designated as Implementing Agency for formation and promotion of 100 'Fodder Plus' Farmer Producer Organisations (FPOs). Many FPOs are actively engaged in business activities such as green fodder and silage production and sale, dry fodder trading, fodder seed sale, selling of feed supplements etc.

Also, in order to improve utilisation of agricultural crop remainders for animal feeding, the crop residues were secured and incorporated with concentrates to produce 'dry-Total Mixed Ration' (TMR). We have established two plants with annual production of about 3,500 MT TMR blocks and pellets. Further, silage/ green fodder, dry fodder and concentrate based 'conventional-TMR' are also being promoted with the first commercial plant established by Amul with technical assistance from NDDDB. More such plants are underway.

We have been exploring ways to produce alternate feeds that not only meets nutritional requirements but also help the environment at the same time. Following successful trials conducted in laboratory and field conditions, NDDDB has embarked on a large-scale pilot project in collaboration with the Punjab State Cooperative Milk Producers' Federation Ltd. (MILKFED) and Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana for the production of paddy stubble silage.

This initiative aims to utilize paddy stubble, which is traditionally burnt in fields, by employing enzymes and silage culture to produce silage. About 386 tonnes of silage was produced from green paddy stubbles in three districts, Mohali, Ludhiana, and Sangrur in Punjab. A study was also carried out to evaluate the effects of feeding paddy stubble silage on the nutrient utilization and productive performance of lactating buffaloes. The results of the study indicate that paddy stubble silage can be fed to dairy animals as a replacement for wheat and other straw without negatively impacting their productivity. It is expected that this innovative project

would not only address environmental concerns related to stubble burning but also offer potential benefits to lakhs of dairy farmers in the country.

We have put efforts in promoting circular bio-economy that have resulted in successful development of silages using high-moisture pea waste in collaboration with Mother Dairy Fruit & Vegetable Pvt. Ltd (MDFVPL) & Jharkhand Milk Federation (JMF). The innovative production of EPP (empty pea pod) silage will pave the way for utilising vegetable wastes thus offering quality roughage for dairy animals at reasonable cost. Likewise, many wastes of vegetables and fruit processing industries such as mango peel, tomato pomace, banana peels, potato peels etc., are being generated in huge quantities. These wastes can either be ensiled or dried for use in cattle feed manufacturing.

On the animal health front, Disease Control through Alternate Methods (DCAM) is being propagated regularly. This project also focuses on One Health by rationalising antibiotic use to reduce Antimicrobial Usage (AMU) and Antimicrobial Resistance (AMR) through Ethnoveterinary Medicine (EVM). EVM is not only helping in treating ailments in animals at an affordable cost (with about 80 percent cure rate) but also reducing antibiotic usage and thereby antimicrobial resistance (AMR) - a major emerging public health concern.

In order to reach the last mile farmer, various extension materials in the form of brochures, pamphlets and posters on the preparation and application of EVM for all the common ailments have been prepared in 11 vernacular languages and also in English. A total of 264 awareness videos have been also developed in 11 vernacular languages by NDDDB. The same are also available on digital platforms like 1962 android application developed for farmers by Government of India for livestock management and YouTube. To date, these videos have been viewed by more than 30 lakh dairy farmers.

We are also making conscious efforts to connect our dairy farmers to the digital revolution and make technology accessible and useful for them. Several initiatives such as Bharat Pashudhan which is a farmer-centric, technology-driven digital infrastructure aimed at enhancing productivity and health management in India's animal breeding, nutrition and health sectors have been launched for the benefit of our farmers. This ecosystem focuses on developing a connected livestock market, closed-loop breeding, disease surveillance systems and improving traceability of animals and animal products.



New Initiative: White Revolution 2.0

I have always mentioned that Hon'ble Prime Minister has full faith in the livestock sector and the cooperatives. This is evident from the fact that in order to provide impetus to fast-paced development two independent Ministries were formed, first the Ministry of Fisheries, Animal Husbandry & Dairying followed by Ministry of Cooperation. On the lines of the clarion call of "*Sahkar-se-Samriddhi*" of Hon'ble Prime Minister we have made significant progress in the past few years under the guidance of these two Ministries.

This has helped us build upon our core strengths, strengthen the cooperative movement in the country, deepening its reach and creation of an appropriate policy, legal and institutional framework. In a short span of three years, the Ministry has launched several path breaking initiatives for the holistic and inclusive development of the entire cooperative sector, the biggest being the launch of White Revolution 2.0

The cooperative led "White Revolution 2.0" is aimed at expanding cooperative coverage, employment generation and women's empowerment. The objective is "to increase the milk procurement of dairy cooperatives by 50 percent from the present level over the next five years by providing market access to dairy farmers in uncovered areas and increasing the share of dairy cooperatives in organized sector". To achieve the above objective, cooperative milk procurement is required to be increased by about 9 percent per annum as against the present annual growth of 6 percent. The interventions will help in enhancing the cooperative milk procurement from present about 650 Lakh Kg per day to about 1,000 Lakh Kg per day by the year 2028-29.

Under the leadership of Hon'ble Home and Cooperation Minister, the Ministry of Cooperation (MoC) targeted to establish viable Primary Agriculture Credit Societies (PACS)/ dairy/ fishery cooperatives in the uncovered Panchayats/ villages and strengthening the existing PACS/dairy/fishery cooperative societies with the support of National Bank for Agriculture and Rural Development (NABARD), NDDDB and National Fisheries Development Board (NFDB).

For rejuvenation and to address the regional imbalances, there was a pressing need to transform grassroots cooperative societies into thriving business entities. In February 2023, the Union Cabinet approved the establishment of 2 lakh PACS/ Dairy/ Fishery Cooperatives in the next five years, a challenging task as it is roughly equal to the societies we have established since the beginning. Nevertheless, we have happily accepted this challenge. The Standard Operating

Procedure (Margdarshika) was recently launched by the Hon'ble Home and Cooperation Minister. According to the plan, NABARD will form about 70,000 new Multi-purpose PACS (M-PACS), NDDDB will form and strengthen about 1,03,000 Dairy Cooperative Societies (DCS), National Fishery Development Board will establish about 11,500 fishery Cooperative Societies (FCS) and in addition to these, about 25,000 new M-PACS/Dairy/ Fishery Cooperatives will be formed by the State Governments. I am happy to inform you that under these initiatives, 10,000 new PACS were launched by Hon'ble Shri Amit Shah Ji in December 2024, out of which 6,300 are dairy cooperatives.

It is with immense pride and gratitude that I would like to mention another recent delightful development for us. The Tribhuvan Sahkari University Bill 2025 has been introduced in the Parliament, which will enable the establishment of India's first National Cooperation University named "Tribhuvan Sahkari University" as an "institution of national importance" at the Institute of Rural Management Anand (IRMA).

Once the Bill becomes an Act, IRMA will be one of the schools of the University and will also be declared as a Centre of Excellence for rural management. The University will impart and promote cooperative education, training and R&D for strengthening the cooperative movement in the country. It will establish sector-specific schools such as dairy, fishery, sugar, banking, rural credit, multi-state cooperatives, and cooperative finance, marketing, laws, accounting and audit in its campus in Anand or in the States that are the leaders in the respective sectors. I am confident that the establishment of national university exclusively for cooperatives will be a landmark initiative and will greatly contribute in grooming manpower resources aligned with the needs of the sector. This pathbreaking step once again demonstrates the Government's faith in the cooperative sector and its recognition as the main engine for rural prosperity and growth. We should all take pride in this development and whole-heartedly support this initiative.

Augmenting Local Strength: Making Cooperative Institutions Stronger

At the request of State Governments, NDDDB has been working on dairy development in areas that have lagged behind in terms of dairy development in the country. NDDDB has been managing Co-operative institutions in Assam (West Assam Milk Union Ltd), Vidarbha Marathwada region of Maharashtra, Jharkhand (Jharkhand Milk Federation) and Varanasi Milk Union in Uttar Pradesh. Continuing in this spirit, we

have taken over the management operations of East Assam Milk Union (EAMUL), Ladakh UT Dairy Cooperative Federation and Chhattisgarh Milk Federation. The Madhya Pradesh Government has also approved collaboration between NDDDB, Madhya Pradesh State Dairy Federation and its affiliated unions for dairy development. Additionally, we are also extending support to States such as Mizoram, Goa, Uttar Pradesh and Odisha.

This is aimed at further strengthening the dairy institutions in these regions and extending the benefits of cooperatives to the dairy farmers, providing them better remuneration for their produce. It will facilitate cooperative coverage to villages as part of White Revolution 2.0, ultimately bolstering our cooperative fraternity.

From local to Global - New Multi State Cooperatives

In order to connect the village level cooperatives to National and International value chains, setting up of three National level Multi State Cooperative Societies namely National Cooperative Organics Limited (NCOL); Bharatiya Beej Sahakari Samiti Limited (BBSSL), and National Cooperative Exports Limited (NCEL) has been undertaken, which is already proving to be a game-changing development.

The NCOL is mandated to realize the potential of organic products and create a healthy agricultural ecosystem. The BBSSL promotes quality seed production, processing, and distribution, while the NCEL is aimed at enhancing cooperative trade, and promoting Indian goods globally. The membership base of these multi state cooperative societies is continuously increasing with cooperatives of all levels from PACS to Apex bodies, becoming members and reaping benefits.

NDDDB is the chief promoter of NCOL, which has been set up to act as umbrella organisation for aggregation, procurement, certification, testing, branding, processing, storage as well as marketing of organic products with support from relevant Ministries /departments/ Agencies following the "Whole of the government approach". There is a growing awareness amongst the farming community and customers about the need and importance of organic cultivation. As per the latest data published in 2024, India ranks first in terms of number of organic producers with 2.5 million farmers. Further, in terms of global cultivable land area under organic, the contribution of India is significantly high at 20 percent. Despite this, the contribution of India in the global organic trade is a miniscule 0.6 percent. The unorganized organic producers, unstable market linkages, dearth of

pre-requisite infrastructure such as testing labs, greenhouses, etc. have hindered the growth of organic production despite the vast amount of certified organic land and number of organic producers in India. It has been formed with the broad mission of being among the top three global organic product brands in the next 10 years by promoting, supporting and facilitating Indian cooperatives' organic products and services along with the promotion of organic farming among rural youth, farmers, consumers and traders through good network and cooperative cluster approach. Under its own brand name, 'Bharat Organics', all the organic produce will be sold by NCOL and the substantial portion of the profit earned by it will be credited directly to the farmers who supplied the products. Presently, NCOL has around 5,200 member societies, with a sales turnover of about Rs. 92 lakh in 2024-25.

Similarly, the BBSSL has been formed to undertake production, procurement & distribution of quality seeds under single brand through network of cooperatives. The goal is to improve crop yield and develop a system for preservation and promotion of indigenous natural seeds. The society focuses on production, testing, certification, procurement, processing, storage, branding, labelling and packaging of two generations of seeds i.e., foundation and certified (breeder seeds will be sourced from Public Sector Research Organizations and International Research Institutes). BBSSL will help in increasing the production of quality seeds in India through cooperatives thereby reducing the dependence on imported seeds, enhancing agricultural production, boosting the rural economy, promoting "Make in India" and leading to *Atmanirbhar Bharat*. So far, about 15000 societies have been allotted share certificates and seeds worth Rs. 37.50 Crore have been sold.

To mark global footprint of domestic cooperative produce, the NCEL has been created to function as an umbrella organization for exports by the entire cooperative sector of the country. The society will help boost cooperative efforts in agriculture, horticulture, dairy, poultry, livestock, fisheries, sugar, spices, organic products, fertilizer, handloom, handicraft, textile, tea/coffee, minor forest produce, ayurvedic/herbal medicines, processed food, leather, etc. They are encouraged to think globally, act locally and expected to leverage their comparative advantage across the globe. So far, NCEL has recorded turnover of about Rs. 4,500 Crore through export of cooperative produce.

Growing Global Aspirations

The overall popularity and demand for milk and milk



products have been increasing globally due to growing awareness about their innumerable benefits. We need to exploit this opportunity to increase India's participation in global dairying context and increase our exports. Milk production in major global centres is either stagnating, declining or growing too slowly, which will be unable to meet global milk demand in the future. India emerges as a bright spot in this scenario and we must grab this chance with both hands to realize the vision of India becoming the "Dairy to the World".

Our founding father, Dr. Kurien had once remarked:

"India's place in the Sun would come from the partnership between wisdom of its rural people and skill of its professionals."

I believe that we have utilized the wisdom of rural people and combined it with the skills of dedicated dairy professionals to transform the Indian dairy landscape. However we have not yet taken our rightful place in the Sun. Now is the most opportune time to seize this opportunity and shine brightly in the world of dairying.

Many of our dairy cooperatives like Nandini, Amul, Verka, Milma to name a few, have been exporting dairy products. However, last year Amul introduced liquid milk on American soil for the first time. I have been told that it has been a huge hit in the USA as milk with 6 percent fat was not available there earlier and some of my NRI friends have told me that they felt immense pride and nostalgia upon seeing Amul Milk on the shelves of American Supermarkets. I am pleased to learn that Amul is also gearing up to supply fresh milk in European markets soon. Also, I recently learned that Sudha is also preparing to export some of its famous dairy products to international markets. This is a very positive sign for the future, as Indian dairy products are poised to dominate global markets.

Vision 2047 with a Global Ambition

As we foresee achieving global leadership, we need to align ourselves to the vision of India becoming a powerful developed nation by 2047 and contribute copiously. Dairying has enormous potential to contribute to this vision as it is one of the best tools to empower our rural population. India can only advance when rural India progresses. This progress can only be realised when we have a clear pathway and a blueprint to achieve our goals. During the past year we have engaged in extensive discussions with all the stakeholders and have developed Vision 2047 for Dairying in India, keeping in mind our global aspirations.

On the supply side we are growing comfortably which is currently sufficient to meet our domestic demand. We

anticipate that with a given growth rate of 5-6 percent per annum, by next decade we will have a surplus to export. However, tapping into global growth requires a strategic approach. We need to focus on value addition by moving beyond just liquid milk and some traditional dairy products. Although, Indian dairy products, particularly ghee and paneer, have a strong cultural identity and growing demand internationally there is immense potential in modern value-added products like cheese, butter, yogurt, and whey protein. Various reports and available data suggest that the accelerated demand of milk and milk products in future will be mainly driven by modern value-added products, functional products and nutraceuticals. Currently only 25 percent of the milk that cooperatives purchase is turned into dairy products. Increasing capacity utilisation for manufacturing milk products, enhancing milk processing capacity and modernising existing infrastructure, manufacturing products as per the consumer needs & preferences, incentivising processing infrastructure to reduce dependence on import of products like lactose and whey protein/milk albumin, investment in R&D for high-value-added products and export-oriented value-added products are the need of the hour.

NDDB is supporting the efforts of Department of Animal Husbandry and Dairying, GoI, through the National Programme for Dairy Development (NPDD), the Animal Husbandry Infrastructure Development Fund (AHIDF), and the former Dairy Processing Infrastructure Development Fund (DIDF), to modernise and improve the organised sector's capabilities for milk processing and quality testing. It is envisaged to increase the share of VAPs in the cooperative sector from 25 percent to 50 percent by 2047.

We still need to improve productivity of our cattle and buffaloes and be sensitive to climate change if we wish to have our global ambitions fulfilled. Enhancing animal productivity through better breeding, nutrition, management and healthcare is essential to ensure dairying has a sustainable future. We aim to increase lactation yield from the present level of 1,740 Kg to about 4,000 Kg per animal per lactation by 2047.

Expanding cooperative coverage is essential to address challenges such as fair pricing, quality maintenance and consumer safety, thereby enhancing market access and strengthening the organised sector. This expansion will support improved milk quality and readiness for export markets. The key interventions to address this include expanding milk procurement areas with an emphasis on producer owned institutions, deepening the reach of dairy cooperatives through handholding & support to

weak cooperatives, increasing women's participation, convergence of activities in less dairy-developed areas and enabling policies and programmes. White Revolution 2.0 will be very useful in achieving this. It is targeted to expand cooperative coverage from 1.7 to 3.5 lakh villages over the next two decades.

Our share of the world dairy market is currently less than one percent. Increasing dairy exports is crucial for the sector's growth. India needs to address issues including non-tariff barriers, uncompetitive prices, and ineffective marketing. Several strategies are being adopted to alleviate these challenges. The target is to increase India's share in the global dairy to about 10 percent by 2047.

As we make progress we need to keep the issues related to sustainability and climate change in our conscience. We need to be sensitive to the fact that our every act has profound impact on the environment in the long run. We envision to achieve Net-Zero GHG emissions by 2050 through comprehensive sustainable practices. Multipronged strategies are being adopted to mitigate environmental issues.

Sustainability

This brings me to Sustainability in dairying on which I would like to shed some light in detail. Indian dairying model is one of the most sustainable forms of dairying, however, there is room for further improvement. This involves improving feed efficiency, promoting climate-resilient livestock practices, and reducing the carbon footprint and methane emission during dairy production. Since 2018, continuous efforts in manure management domain have resulted in the development of various innovative and efficient Manure Management Models. The core focus of these models is not only on efficient production and use of clean energy but also on the propagation of sustainable agricultural practices.

Under the decentralised 'Zakariyapura model', more than 27,000 flexi biogas plants of 2 cubic meter capacity have been installed in the backyard of the dairy farmers to produce clean energy for kitchen and utilise slurry as a source of organic manure. Surplus slurry is procured from farmers and aggregated to produce slurry based value-added organic fertilisers. These value-added products include solid organic fertilisers like PROM (Phosphate Rich Organic Manure) and FOM (Fermented Organic Manure). Liquid bio-fertilisers are manufactured such as RootGuard, GroMax and Micronutrient Rich Liquid (MRL). Building on this model, several community/cluster level manure management initiatives have been taken up in 9 states. With Anand Agricultural University's support, studies on gobar gas slurry-based fertilizers

have proven their effectiveness at both the farmer and policy levels. One exemplary initiative, the *Mujkuva Sakhi Khad Sahakari Mandli* - India's first all-women manure cooperative - has successfully harnessed biogas and organic fertilizers, demonstrating the transformative impact of such initiatives. Under the centralised 'Varanasi model', a dung-based biogas plant of 4,000 cubic meter capacity has been installed at Varanasi Milk Union. In this model, cow dung is procured from the farmers and the biogas generated is utilised to meet the thermal and electrical energy needs of the dairy plant. This model will be further replicated at Sabarkantha Milk Union (Gujarat) and Barauni Dairy (Bihar). Under the centralised 'Banas model', a 2,000 cubic meter biogas plant has been established at Banaskantha Milk Union to produce bio- CNG from cow dung. In addition, a pilot on production of green Hydrogen from biogas is also underway.

Another significant highlight is that the Suzuki R&D Centre India Pvt Ltd (SRDI), a wholly-owned subsidiary of Suzuki Motor Corporation entered into an agreement with NDDDB at Anand on December 25, 2024, to expand biogas plants across India. As per the agreement, SRDI is making equity investment in NDDDB's wholly owned subsidiary, 'NDDDB Mrida Ltd'. Mrida is having the privilege of being the only second company in India after Maruti that Suzuki has chosen to invest in.

As a joint venture organisation of NDDDB and SRDI, Mrida will be advancing the vision of both organisations by providing clean energy in various forms and organic fertilisers that minimise the use of chemical fertilisers through dung-based biogas models. Earlier, SRDI had partnered with NDDDB to setup dung based compressed biogas plants in Gujarat. Currently, work on four such plants is underway in Banaskantha district with Banas Dairy. Additional plants are also planned in collaboration with Amul Dairy, Dudhsagar Dairy and other dairy cooperatives. With Suzuki's investment in NDDDB Mrida Ltd, all these initiatives will be carried out in a focused and scaled-up manner.

I am happy to inform you that NDDDB along with Sustain Plus Energy Foundation is working for the generation of Carbon Credits from the installation of flexi biogas plants in 7 states (project registered under the Voluntary Carbon Standard mechanism). Under the "*Gobar se Samruddhi*" initiative, NDDDB Mrida Ltd. has partnered with the biogas plant manufacturer Sistema.bio to harness upfront carbon financing potential for installation of flexi biogas plants. The Government of India's *Green Credit Programme* would provide further incentives for adoption of sustainability measures in areas such as manure



management, afforestation, treatment of dairy wastewater, use of renewable energy in dairy value chain, and efficient design resulting in reduction in material and energy intensity in dairy processing. I am pleased to state that under this initiative about Rs 5.5 lakh has been disbursed through accumulation of green credits to dairy farmers for producing and utilizing biogas. This is a prime example of converting waste to wealth.

We are also promoting sustainable practices to mitigate GHG emissions. The adoption of sustainable practices such as scientific fodder production, breeding, feeding, health, manure and energy management coupled with GHG removal through Carbon sequestration would help achieve the state of 'Net-Zero emissions' by 2047. Recently, Government of India launched a very important centrally sponsored scheme, named National Mission on Natural Farming (NMNF) which would reach to 1 crore families and cover 7.5 lakh ha. of area. FPOs especially dairy cooperatives and other milk producer organisations and PACS will play a key role in implementing the scheme on the ground.

Concluding Remarks

As we move forward, it is essential to continue nurturing the foundations of this sector-empowering small-scale farmers, strengthening cooperatives, and fostering innovation. The focus should remain on building an industry that not only contributes to economic growth but also enhances social equity and environmental harmony.

Reflecting on the journey of Indian dairying, we are reminded of the incredible progress made through the dedication of our farmers, cooperatives, and institutions. Indian dairying stands tall today with numerous achievements such as rural empowerment, providing livelihoods to crores while bridging division of caste, gender, and community. Our dairy cooperatives remind us of the power of collective effort. Let us work together to ensure that Indian dairying remains a beacon of hope, resilience, and opportunity for generations to come.

To realize the vision of "*Sahkar-se-Samridhi*" of Hon'ble Prime Minister and under the leadership of Hon'ble Home and Cooperation Minister, the cooperatives in the country will thrive, driving prosperity & self-reliance in rural economy. As we grow, we need to remember that the dairy sector has an important responsibility and will have to play an important role in realising the vision of *Viksit Bharat 2047*.

Certainly, well calibrated collaborations between the Government, cooperatives, private dairies, academia,

research institutions and entrepreneurial dairy farms will propel Indian dairying into a new phase of expansion and sustainability. As we prepare for this change, let's also pledge to ensure that the advantages of this revolution are spread throughout our wonderful country empowering our dairy farmers like never before. We are well poised today to become Dairy to the World and by working together and moving forward hand in hand, we can certainly achieve this. Let us recommit to building on this strong foundation, seizing opportunities, keeping our innovative spirit alive for the benefit of dairy farmers.

I would like to conclude by quoting Dr. Kurien, as his words are as relevant today as they ever were:

"I trust, in a humble way - dairying is such as instrument of change: an instrument not only of technical change, but also of economic and social change. It is to such instruments that we must look to build the India tomorrow."

I have full faith that the proceedings of 51st DIC here at Patna will support our efforts to identify creative and sustainable ways to increase the profitability of dairying for crores of our farmers. This will be achieved by lowering costs, boosting productivity and simultaneously minimising environmental impact through the adoption of greener practices and leveraging our local strengths to achieve our vision of Global Leadership. We have a host of eminent speakers, knowledge sessions, round table discussions and a wonderful exhibition that will enlighten us with the latest know-hows and help us in charting a concrete path for the sector to move ahead. I wish the conference all the success with tangible outcomes.

Thank you! Jai Hind!