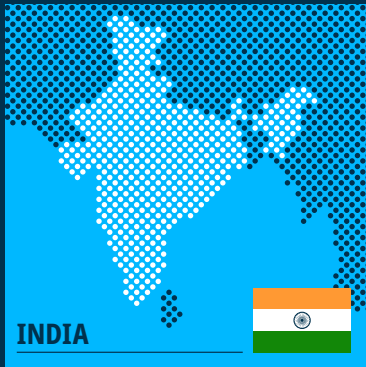


# PATHWAYS TO DAIRY NET ZERO.



MEET DAIRY'S CLIMATE ACTION CHAMPIONS

## HOW INDIA'S NATIONAL DAIRY DEVELOPMENT BOARD IS HELPING DAIRY FARMERS REDUCE GREENHOUSE GAS EMISSIONS

India's National Dairy Development Board (NDDB) aims to make dairying a viable and profitable economic activity for millions of smallholder milk producers. NDDB is also helping dairy farmers reduce greenhouse gas (GHG) emissions through the following interventions:

### Feeding management

Rations fed to dairy animals are often nutritionally imbalanced, which results in higher enteric methane emissions. Feeding balanced rations helps reduce enteric methane emissions per kilogram of milk. NDDB's ration-balancing initiative has been implemented on nearly 3 million animals and is helping to reduce emissions by 545,000 tonnes every year.

INDIA IS

#1

in global dairy, producing...

23%

of the world's milk

SOURCE: Food and Agriculture Organization of the United Nations. FAO in India. 2022. Available from: <https://www.fao.org/india/fao-in-india/india-at-a-glance/en/>



**IMAGE:** Ration balancing to reduce methane emissions

## Crop residue management

Approximately 92 million tonnes of crop residues are burned in India every year. NDDB is trying to decrease this burning by encouraging farmers to gather crop residue from fields and incorporate them into Total Mixed Rations (TMR). NDDB also supported the establishment of two TMR plants which used crop residues to produce 8,000 tonnes of TMR pellets, helping to prevent 5,540 tonnes of CO<sub>2</sub>-equivalent emissions.

## Manure management

NDDB is helping farmers establish more than 3,000 small-capacity biogas plants in 18 states. The biogas produced is used to meet household energy needs and the slurry is used to produce organic fertilizers that improve soil fertility and crop productivity while reducing use of chemical fertilizers. This initiative helps reduce emissions by 6,363 tonnes annually.

## Energy management

NDDB supports non-conventional energy sources in dairying, including solar, which is used for agricultural purposes such as chilling milk. Any surplus energy is exported to the national grid.

Some bulk milk coolers installed in villages use solar energy, which has the potential to help reduce emissions by 184,000 tonnes every year. And nearly 400 dairy processing plants are being supported to establish of concentrated solar thermal systems, which would help eliminate 380,000 tonnes of emissions annually.

**“ AS THE ADVERSE EFFECTS  
OF CLIMATE CHANGE  
ARE INCREASINGLY BEING  
FELT ACROSS NATIONS,  
STRONG ACTIONS ON A  
CONSISTENT BASIS ARE  
REQUIRED TO REDUCE  
THE CONTRIBUTION OF  
OUR DAIRY SECTOR TO  
CLIMATE CHANGE. ”**

Meenesh Shah, Chairman of NDDB.



**IMAGES CLOCKWISE FROM LEFT:** Securing crop residue, application of slurry from biogas plant, crop residue based TMR pellets, use of solar energy for irrigation