

Progress towards
systemic change

Milking it

Finding ways to increase
milk productivity in
Indonesia

The dairy sector has benefitted from PRISMA's interventions. Milk production has increased, and the potential for systemic change is evident. However, foot and mouth disease and lump skin disease slowed partners' work, and most innovation rests with just two private sector partners. Read on to learn more about PRISMA's efforts to improve the sector's scale, sustainability, and resilience.

Dairy sector in Indonesia

Indonesia has experienced a large milk deficit for many years. Domestic milk production only meets about 20 percent of demand, with significant supply coming from imports. East and Central Java account for almost 67 percent of the local supply, with 115,000 small dairy producers. Nevertheless, milk productivity and quality are suboptimal. The suboptimal performance is due to a lack of access to good-quality feed, pharmaceuticals, veterinary services, and suitable dairy breeds for the tropical climate. In addition, farmers have poor knowledge of good dairy farming practices.



PRISMA's sector vision

PRISMA addresses market constraints by improving management and business practices at the farm level for feed, animal health and enabling access to good dairy breeds through policy engagement. In addition, PRISMA is working with dairy processing Industries (DPI) to improve milk handling at collection points and expand distribution networks so farmers have better access to the DPI.

Dairy low production

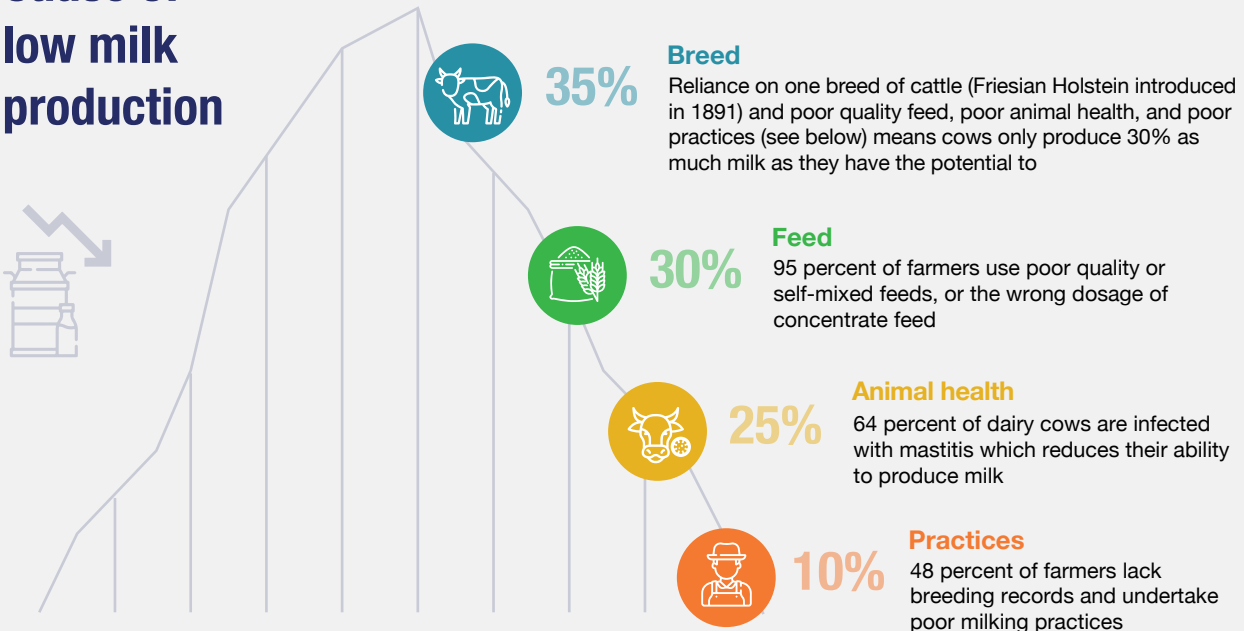
Everything related to the dairy industry in Indonesia is trending upwards. Everything, that is, except milk production. The dairy industry is relatively new and relatively small in Indonesia, with production concentrated in the highland areas of East and Central Java. There are 136,000 dairy farming HHs in Indonesia, with 90 percent being smallholder farmers.

With increased urbanisation and rising incomes, demand for dairy products in all South-East Asian countries is growing. According to Rabobank, the combined markets of South-East Asian countries are having the largest

growth in dairy demand in the world, with combined annual demand reaching close to 19 billion litres (liquid milk equivalent) by 2030.¹

However, Indonesia has a significant supply-demand gap, with 80 percent of dairy demand serviced through imports. Smallholder dairy farmers are only achieving an average of 9 litres of milk per head of cattle per day compared to the average in Australia of 22 to 30 litres per cow. This low production is due to a combination of poor practices, which results in poor-quality milk and a long calving interval of close to 17 months.

Cause of low milk production



A long whey to go

In 2019 PRISMA identified opportunities to increase productivity in the dairy sector by focusing initially on feed and animal health functions. At the time, there were only 3 small companies servicing the dairy market but with only a single product for lactating cows. Specified feed formula should be available for the complete life cycle of a potential milking cow to increase milk production. The market share of these companies could have been higher, with less than 10 percent of smallholder dairy farmers buying and using the correct dosage.

There is a strong correlation between animal health and milk production. In 2019, only 5 pharmaceutical companies provided animal health products for dairy cows, but only 5 percent of sales were for large ruminants. The reason for low sales was that farmers did not consider animal health and biosecurity measures necessary, and pharmaceutical companies focused on poultry and the aqua sector.

In 2020, PRISMA established a partnership with a medium-sized company, Nufeed, to develop and market a range of diversified feed products. Just as the products were ready and being marketed, disaster struck – the COVID-19 pandemic.

¹ <https://www.foodanddrinkbusiness.com.au/news/south-east-asia-a-booming-market-for-dairy>

Progress at a ‘low’, but the feed market gains traction

The pandemic slowed progress in the dairy sector. PRISMA helped Nufeed pivot to online marketing and promotions; sales went from zero to 16 tonnes per month in Central Java. Nufeed took PRISMA’s advice and used the results of farmer behaviour research to help establish distribution channels through intermediary service provider (ISP) agents. Nufeed soon expanded from the pilot area of 4 districts in Central Java to 50 districts in Central, East, and West Java. Total sales for Nufeed almost doubled by 2022. In 2021 and 2022, PRISMA partnered with 3 other feed companies although progress has been slow.

There is good evidence that 18 feed companies now sell 29 feed products to dairy farmers. Farmers are adopting higher-quality commercial feed; consequently, average milk production has increased to 13 litres per cow per day.

April 2021, PRISMA secured a partnership with the pharmaceutical company Medion to trial, promote, and market a herbal supplement to prevent mastitis with the Nestle network, one of the largest DPI in Indonesia. PRISMA assisted Medion in promoting embedded information on good feeding and animal health practices through the agent network and dairy cooperatives. Within 12 months, farmers reported modest income increases due to using the supplement.²

Eking a little more from the churn

Following the program strategy refresh in 2021, the dairy team added 2 new functions to the dairy strategy: policy engagement and milk off-taking. Indonesia relies on the Friesian Holstein breed, which is not suited to tropical climates. PRISMA has been supporting the GOI in undertaking studies to develop a roadmap and technical guidelines for smallholder farmers to farm Jersey cattle. The GOI’s change in policy to allow the import of the Jersey breed made this work possible. PRISMA made significant progress in this area due to the program’s previous work with the MoA in beef cattle.

PRISMA has partnered with SGM Danone to pilot Jersey cattle farming with selected lead farmers of Danone’s dairy cooperatives. While there will be sufficient time to determine the feasibility of the pilot, there is insufficient time for scale-up.

PRISMA has improved distribution networks for milk off-taking, with an increase of 16 percent of milk sales to DPI in Central Java and 2.2 percent in East Java.³ These fresh milk sales to the DPI have increased the income of smallholder farmers by 61 percent.

² Average income increase of IDR106,348 (AUD10.63).

³ The low sales in East Java are because most farmers already have off-taking access through dairy cooperatives.



Foot and mouth disease and lumpy skin disease

The FMD outbreak, which impacted 90 percent of all dairy cattle, and the recent presence of lumpy skin disease (LSD) in Central Java continue to challenge the dairy sector. Despite the sharp decline in FMD cases, recovered cows are still not at peak milk production. A US Department of Agriculture study reported a 35 percent reduction in milk production due to FMD, and PRISMA field data supports this. These conditions could create disincentives for farmers and businesses to invest in the dairy sector.

The private sector networks established by PRISMA have been instrumental in providing up-to-date and timely information on FMD, including biosecurity measures, treatment, appropriate products, and how to access vaccines and other government services.



An 'udder' disaster

In April 2022, FMD hit the dairy sector, significantly decimating herd sizes and impacting milk production. Feed sales reduced at the beginning of the outbreak but are regaining. Farmers using concentrate feed had fewer cow deaths and quicker recovery times, which encouraged farmers to continue using concentrate feed. Feed sales have subsequently rebounded.

Another positive impact of the outbreak was the 300 percent increase in animal health product sales, including supplements, vitamins, medicines, and biosecurity products. It will take time to assess the degree to which the market recedes after the outbreak and if farmers return to previous poor practices in animal health.


Mooves in a positive direction but with limited scale

The dairy sector has benefitted from PRISMA's interventions, particularly in Central Java, where productivity is lower than in East Java. Milk production of 3,947 dairy HHs has increased to 13 litres per day, with a 60 percent increase in milk quality. This change has led to a 72 percent increase in income (IDR28.7 million per year or AUD2,870). The calving interval has also been reduced from 17 to 13 months, and cows with improved nutrition have better health outcomes.

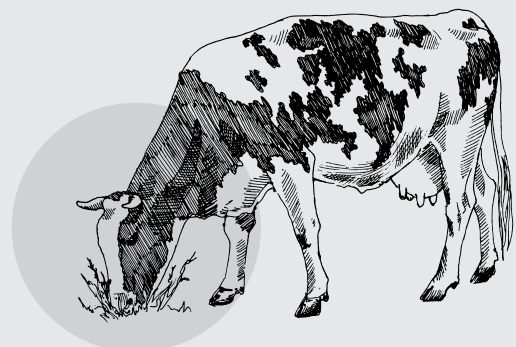
COVID-19 and FMD slowed partners' work and limited progress in many functions. The potential for systemic change is evident, particularly in the feed and policy functions. The business models of PRISMA partners in all functions will likely continue when funding withdraws. However, most innovation rests with one feed company (Nufeed) and one pharmaceutical company (Medion). The recent outbreaks of FMD and LSD have discouraged other companies from investing in the dairy sector. In the remaining 8 months of the partnership, the team will try to trigger behaviour change in other market actors to improve the scale, sustainability, and resilience of the progress to date.



Impact

 **6,518**
Households benefited

 **74%**
Income increase



About PRISMA

PRISMA is a partnership between the Government of Indonesia and the Government of Australia to increase the productivity and income of smallholder farmers. Increased productivity contributes to food security and builds farmer resilience to market and agricultural shocks, including climate change.

PRISMA is supported by the Governments of Australia and Indonesia and implemented by Palladium, with Technical Assistance from Swisscontact, Zurich.

Find out more:

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