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## Impacts of Covid-19 Lockdown on Dairy Farms in and around the Megacity of Bengaluru, India

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## Abstract

The Indian dairy sector is the largest worldwide, although 80% of dairy animals are kept in herds of two to five cows and a large share of milk is still marketed via informal channels. From March 2020 onwards, Covid-19 strongly impacted global food systems, disrupting supply chains, demand for food products, and the livelihood of millions involved in agriculture. Therefore, this study aimed to assess the impacts of Covid-19 on small (< 3 lactating and dry cows plus heifers (LDH), medium (4–6 LDH), and large (> 6 LDH) size dairy farms in and around the Indian megacity of Bengaluru. A total of 129 dairy farms that had participated in a baseline survey conducted from January to March 2020, before a first lockdown was enforced in India, were surveyed again by phone from August to September 2020 regarding input supply for cows, milk marketing, and strategies adopted to cope with the impacts of Covid-19. Results show that the share of dairy farmers not providing concentrate feeds to their cows increased from 1% before lockdown to 7% afterwards (p < 0.05), and for dry forages from 20 % to 33 % (p < 0.05). Increased price of dry forage was the main reason for stopping to feed it. The average milk yield per cow per day was 8.2 liters before lockdown versus 7.6 liters after lockdown. An immediate impact of Covid-19 was a decreased consumer demand for milk. In consequence, overall milk yield decreased by 26% after lockdown because a higher (p < 0.05) share (30%) of the surveyed dairy producers sold at least one lactating cow during or after the first lockdown and switched to an alternative income-generating activity such as meat production from small ruminants, or engaged in an off-farm activity. Six percent of the dairy producers abandoned dairy production altogether. Despite the severe disturbance caused by the pandemic, and especially challenged by decreased milk demand and input availability, most dairy producers in and around Bengaluru were able to adapt their production strategies within a few weeks of time, demonstrating how resourceful and flexible smallholder farmers can react to a shock.

Keywords: Coping strategy, dairy production, pandemic, smallholder, survey

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