

Maziwa Zaidi (More Milk) in Tanzania

The 'Mazzican' improves the bacteriological quality of milk and contributes to higher profits

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Key messages

- Good milk handling leads to better quality milk, safer products for consumers and higher profits for producers and processors.
- The *Mazzican* is a much better container than plastic jerry-cans to maintain good bacteriological quality during milking and transportation.
- Regulatory agencies should replace jerry-cans with better milk handling vessels like the *Mazzican*.
- Minor improvements to the *Mazzican* design are required to improve its handling during milking and transportation.

Objectives and approach

- Most smallholder farmers in Tanzania use non-food grade plastic jerry-cans during milking and transportation because they are cheap. Studies show this contributes to the poor hygienic quality of milk leading to spoilage and rejection.
- An affordable food grade plastic vessel known as *Mazzican* developed and tested elsewhere in East Africa showed potential to help produce better quality milk.
- A study to validate the efficacy of the *Mazzican* in improving bacteriological quality of milk was conducted the 'pastoral producer- and smallholder-milk trader' value chains in Mvomero district in Morogoro, Tanzania.

Key results

- Pastoral milk had better bacteriological quality compared to smallholder dairy milk.
- There was higher improvement in bacteriological quality of pastoral cattle milk (>75%, TPC & TCC) compared to smallholder dairy cattle milk (69%, TPC; 42%, TCC) handled in *Mazzican* compared to jerry cans.
- The large size of the *Mazzican* and side handle was inconvenient for holding during hand-milking and carrying during transportation.

Table 1: Bacteriological quality of smallholder dairy and traditional cattle raw milk delivered to milk traders in Mvomero District Morogoro using two types of vessels. (TPC= Total Plate counts; TCC= Total coliform counts)

	Traditional cattle		Smallholder dairy	
	Jerry can (n=18)	Mazzican (n=30)	jerry can (n=20)	Mazzican (n=15)
Total Plate Count (c.f.u./ml)	3.90E+05	9.23E+04	1.19E+06	3.62E+05
Total coliform (c.f.u/ml)	1.02E+03	2.28E+02	7.68E+03	4.42E+03
% Reduction, TPC		76.33		69.48
% Reduction, TCC		77.62		42.3

Opportunities to invest and scale

- **Farmers' organizations:** Marketing arrangements for the *Mazzican* that involves a check-off system to enhance access to the container by pastoralists and smallholders.
- **Private manufacturer:** Re-design the *Mazzican* so it can be held from the top to improve its portability.
- **Private manufacturer:** Design a smaller *Mazzican* to improve ease of handling during milking.

Plate 1: Hand milking directly in Mazzican



Plate 2: Transporting milk in Mazzican

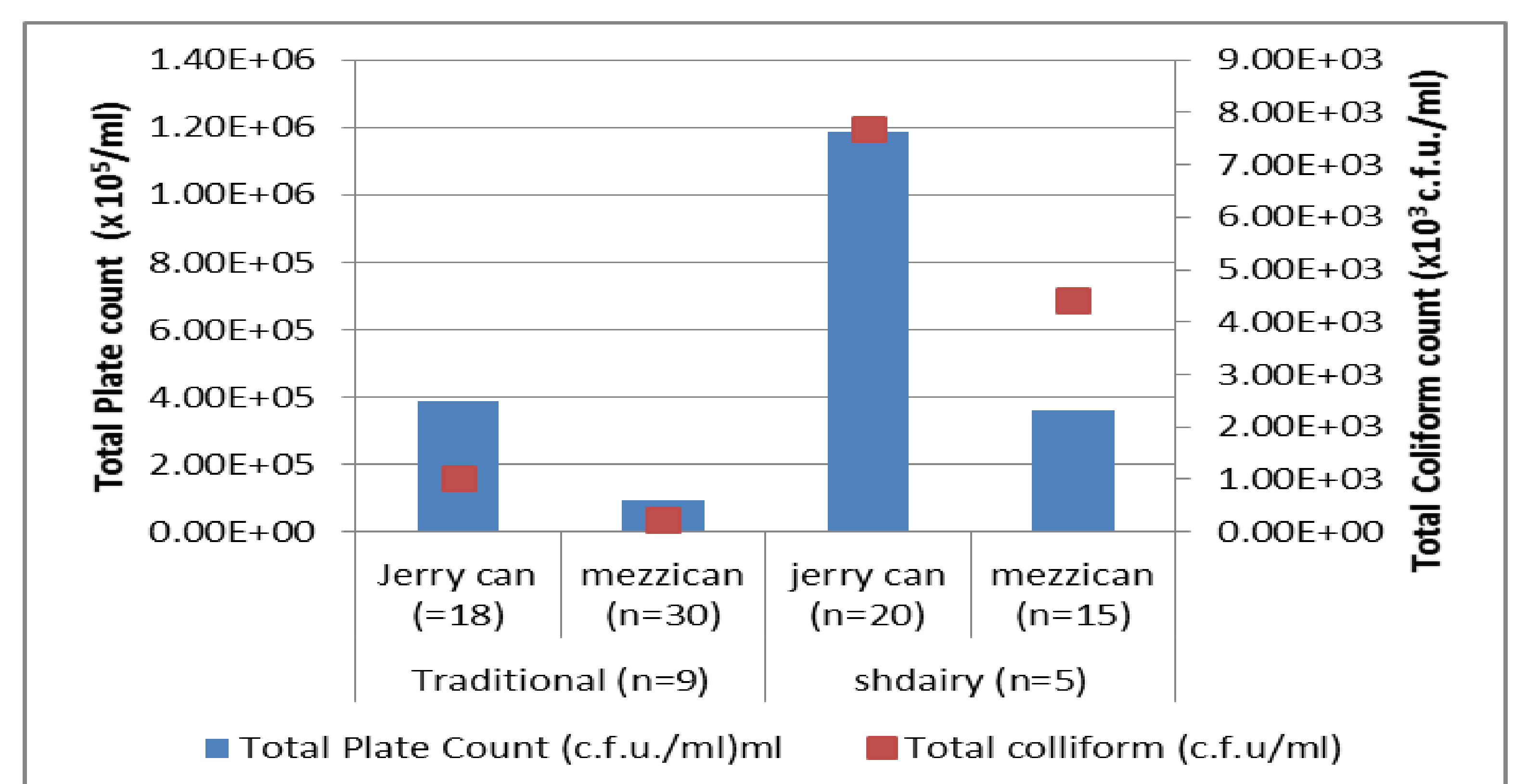


Fig 1. Bacteriological quality of milk handled by use of jerry cans and Mazzican

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