



EVIDENCE OF SUCCESS

MILKING THE DEMAND FOR DAIRY IN KENYA

► ABOUT BIG FACTS

Big Facts is a resource of the most up-to-date and robust facts relevant to the nexus of climate change, agriculture and food security. It is intended to provide a credible and reliable platform for fact checking amid the range of claims that appear in reports, advocacy materials and other sources. Full sources are supplied for all facts and figures and all content has gone through a process of peer review.

Big Facts is also an open-access resource. We encourage everyone to download, use and share the facts and graphic images. We believe that by sharing knowledge we can aid the type of interdisciplinary understanding and collaboration necessary for meeting the challenges posed to agriculture and food security in the face of climate change.

The Big Facts project is led by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). CCAFS is a strategic partnership of CGIAR and Future Earth, led by the International Center for Tropical Agriculture (CIAT). CCAFS brings together the world's best researchers in agricultural science, development research, climate science and Earth System science, to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security.

We are well aware that this field is progressing rapidly, and that science is always open for re-evaluation. We welcome your suggestions for improvements, updates and corrections at ccafs@cgiar.org.

Acknowledgments

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DAIRY FARMERS PUSH UP PROFITS WITH A BASIC BUT EFFECTIVE PASTEURIZING SYSTEM.

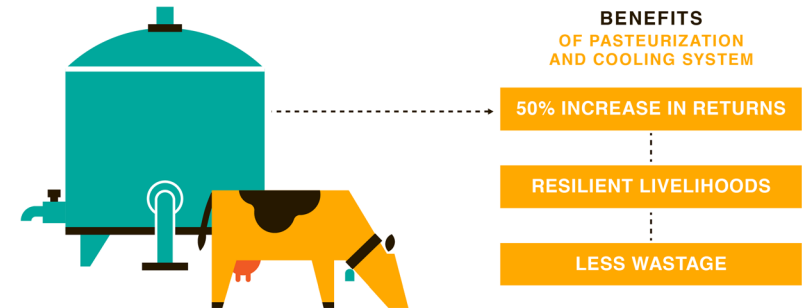
Fast-growing cities worldwide are thirsty for milk. Demand for milk and dairy products in developing countries is growing at 2.5% year on year, and small-scale farmers are already trying to increase production.

One of their biggest challenges is processing and packaging. Milk bound for distant urban markets must be pasteurized, but an FAO study in Kenya found that heating and chilling equipment costs up to USD 50,000—a dubious investment for dairy cooperatives dealing in small volumes. Instead, common practice is to boil milk in cans or other improvised boilers, which destroys nutrients and flavour. Worse, hand-packaging the boiled milk creates an opportunity for contamination and spoilage.

A better alternative is the low-cost technology known as Milk-Pro, originally developed in South Africa. Whereas conventional pasteurizers require specialized electrical supplies, Milk-Pro runs on standard outlets or generators. Milk is sealed in plastic sachets for pasteurization and shipping, which prevents contamination and extends the refrigerated shelf life to 15 days. Cutting the number of steps for processing fresh milk also reduces the water used for cleaning equipment and containers.

The system's price, just under USD 10,000, is within reach for a Kenyan dairy cooperative. When processing 750 litres of milk per day, the payback period is 1 year.

Low-cost pasteurization adds value for Kenya's dairy farmers.



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Timeline

Milk-Pro came to Kenya as part of the FAO's Training Programme for the Small Scale Dairy Sector in 1996–1997 and was field-tested in 1998.

Partners and funding sources

FAO collaborated with the Kenyan government to test and assess Milk-Pro's benefits at the Naivasha Dairy Training Institute in Kenya. An FAO-UNDP project later introduced the system to Bangladesh.

Key lessons and impacts

- Small-scale dairy farmers are already starting to respond to growing demand for quantity and quality, but they need suitable technology to reach their full potential. Milk-Pro helps fill that niche with a system designed for rural conditions and low budgets.
- The added value of higher-quality milk with less contamination and a longer shelf life can increase farmers' returns by up to 50%.

What makes it climate-smart?

FOOD AND INCOME: Proper processing moves dairy farmers up the value chain, boosting their profits. On the consumer side, it provides for an increasing supply of safe, affordable local dairy products.

ADAPTATION: Milk-Pro improves general resilience through better livelihoods and cuts some of the water used by dairy farms. Combining this technology with plans for climate-proofing the dairy sector would offer broader adaptation benefits.

MITIGATION: Hygienic packaging eliminates losses due to contamination, adding to the overall efficiency of milk value chains.

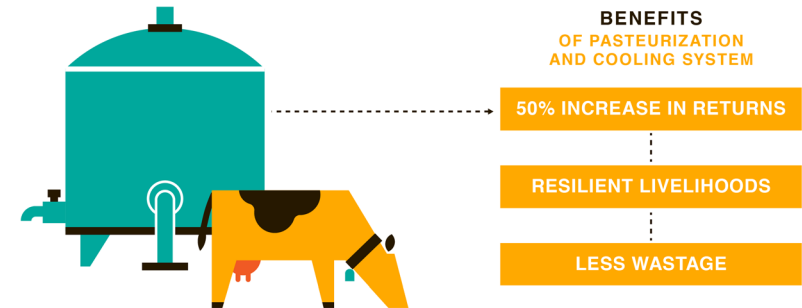
REFERENCES

FAO. 2013. Climate-Smart Agriculture Sourcebook. Rome: FAO. p 306.

Dugdill, BT. 2000. Poster Paper: The Village Milk System. E-mail conference on Small Scale Milk Collection and Processing in Developing Countries. Rome: FAO. (Available from http://www.fao.org/ag/againfo/themes/documents/LPS/DAIRY/ecs/Papers/pp_vms.htm) (Accessed 28 November 2014)

Milk-Pro International: <http://www.milk-pro.com/>

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