

Silage in Pakistan

A systemic change story

Pakistan has the seventh-largest livestock population in the world. However, the dairy and meat sector has yet to achieve its full potential.



Domestic demand for milk outstrips supply, presenting an opportunity for smallholder farmers to increase their incomes by supplying more milk to formal markets. Livestock rearing regions tend to be remote, with limited access to inputs and markets. MDF's analysis found that the principal challenges preventing farmers from selling more milk and meat were low yields resulting from the fact that local agriculturalists were not aware of animal husbandry best practices and they did not have access to affordable, nutritious fodder.

MDF focused on increasing smallholder and landless farmers' access to nutritious fodder, which was a particularly acute problem during the dry season. Smallholders allocate part of their land to growing green fodder, which provides sufficient animal feed for four to seven months. Landless farmers might be allowed to cut green fodder from other farms on which they laboured. For the remainder of the year, farmers had to rely on less nutritious fodder, such as rice and wheat straw, cottonseed cake and leftover bread, to feed their animals. Nutritional deficiencies and low yields were the inevitable outcomes.

MDF identified silage, a nutritious and storable type of fermented fodder, as a possible solution. When MDF assessed the market, silage was only available in 300-1,000kg bales and only suitable for large-scale farmers. For the typical cattle farmer – that is, someone with fewer than five animals – large bales were costly, difficult to transport and wasteful, because a bale contains more silage than smallholders could use (once a bale has been opened, it must be consumed within three days).



MDF saw 60kg bales, produced using small-scale equipment, as a feasible option and supported the private sector to invest in the new business of small-bale silage. This process included several innovations in the market to make silage accessible, affordable and optimally packaged for smallholder farmers. The team also conducted an awareness campaign so local stakeholders learned about the new animal feed option. Demand for small bales of silage quickly outstripped supply. MDF worked with Corteva Agriscience (Pakistan's largest seller of silage maize seeds) to identify capable micro-entrepreneurs who could produce and sell silage to farmers. Initially, MDF and Corteva supported micro-entrepreneurs with the necessary machinery and technical advice.



Once the model proved successful, the next step was to scale it up across Pakistan. MDF collaborated with Cattlekit, a silage machinery provider, and Bank Alfalah, a financial service provider, to introduce an affordable equipment finance product. MDF also supported Cattlekit to host a series of awareness-raising events called 'Silage baithaks.' These sessions featured machinery and seed firms, financial service providers, local governments and successful silage entrepreneurs. Starting from South Punjab, the events extended to different areas of Pakistan, including Sindh and Khyber Pakhtunkhwa (KPK).



MDF found that adoption of the silage business model evolved at different rates in different regions. Over time, the model expanded from an initial 15 supported entrepreneurs to at least 57 new silage entrepreneurs starting businesses independently in Punjab, nine in Sindh and five in KPK. Other businesses responded to this expansion, such as manufacturers and suppliers of packaging, rope and machinery consumables, such as oil and blades, as well as seeds and inoculants. These supporting services generated improved regional economic opportunities.



Two years after the close of MDF Pakistan, the silage business model continues to perform well. Silage is increasingly available and used by small-scale and landless cattle farmers and more farmers are growing maize for silage production. MDF's assessments have shown significant milk and meat gains for farmers who fed silage to their animals, resulting in additional income.

Central to MDF's success in the silage market system was matching an unmet opportunity with a feasible solution, which offered long-term commercial incentives for all the market actors involved: cattle farmers, silage entrepreneurs, seed and machinery firms, financial service providers, and an array of ancillary service providers. The alignment of these financial motivations was vital to ensure the sustainability and expansion of a system that continues to work better for smallholder and landless farmers after MDF's exit.



MDF also found that an intervention's starting point can be instrumental to long-term success. MDF started its intervention in an area with a high probability of success (Punjab) and used this as a pilot to test, learn and demonstrate, before scaling up the model to penetrate more challenging areas, such as Sindh and KPK. This approach helped build evidence, credibility and trust with the private sector, who were then prepared to shoulder a greater proportion of the risk and cost of building up the silage sector.

Read the full case study [here](#). 