



## The smallholder challenge

Agriculture inevitably employs fewer people over time. Rural-urban migration has occurred for centuries, and farming in developed economies has become a capital-intensive, low-labour endeavour. Yet smallholder farmers are not going anywhere any time soon: around 500 million smallholders produce approximately 30 per cent of the world's food supply. And farm size has actually decreased in lower income countries over the past 50 years. At the same time, the global food system is becoming more capital intensive. Returns from agriculture have accrued to capital and skill-intensive parts of the agri-food supply chain rather than to smallholders. This discourages investment in farm productivity and creates a situation where, counterintuitively, some of the world's most in-demand products, such as cocoa, are increasingly reliant on economically precarious farming systems. At the same time, consumer demand for affordable but better food – higher quality, traceable provenance, environmental and ethical standards – requires (and rewards) more farm efficiency and innovation. How to square this circle?

Technology will be key, as in previous agricultural revolutions. The Internet of Things (IOT), after a decade of unfulfilled expectations, finally looks to be nearing the point at which it can be deployed at scale within smallholder farming systems. This has the potential to introduce efficiencies to smallholder value chains that could be the difference between a subsistence livelihood and a living wage. In more developed economies like Fiji and Sri Lanka, farming will professionalise and involve fewer people as it becomes more efficient and automated. Farmers will require different skills. On-farm jobs will be replaced by off-farm jobs elsewhere in the agri-food supply chain, perhaps not in rural areas. Consumer-facing businesses that depend on agricultural produce will invest more in developing and managing more integrated supply chains, rather than just buying commodities.

Navigating this transition to farming that is more productive and sustainable, and which generates decent returns for all actors in the value chain, will take time. The trend will not be all in one direction. It will be complicated by the politics of food security, food sovereignty and land tenure. Agriculture is a de facto social safety net in many countries, into which people can fall when the urban economy takes a hit. It has fulfilled this vital role during the COVID-19 emergency, as it did following the financial crisis in 2008. COVID-19 has also accelerated innovation in the agricultural sector and, with the right innovations, promises to rebalance the relationship between smallholders and the global food system.

MDF is clear-eyed about agriculture's prospects. It is an important part of the portfolio because MDF sees feasible opportunities to support transformation. MDF understands that technology is not a silver bullet and that economic fundamentals will always matter. But the program also recognises that digitisation can reduce transaction costs and increase accessibility, knowledge, trust and liquidity. Innovations in storage, cold chain, transportation, off-grid power, and vertical farming can overcome the constraints of distance and perishability. New seeds, inputs and equipment can mitigate the predations of climate change. The lot of the smallholder will remain precarious. But there are reasons to be optimistic.

