New hybrid seed varieties are acknowledged as a potential vehicle with which to fight famine and poverty in Africa and elsewhere. If seeds are the vehicle, then fertilizer is the fuel in the tank. And to extend the metaphor, agrochemicals such as pesticides, fungicides and herbicides must be the wipers, heater and air-conditioning—the tools that help the driver optimize performance and deal with environmental conditions encountered along the way.

Agricultural inputs, primarily seed, fertilizer and agrochemicals, have an enormous potential to leverage the efforts of hard-working farmers. Used appropriately, they can mean the difference between a good harvest and starvation. Norman Borlaug, father of the Green Revolution, publicized the wonders of agricultural inputs in the 1960s. His research in Mexico resulted in new wheat varieties resistant to a spectrum of plant pests and diseases. When critical inputs were supplied, these new seeds produced two to three times more food than previously popular varieties. Borlaug’s discoveries, and the resultant agricultural movement capitalizing on input supply, resulted in his receiving the Nobel Peace Prize in 1970.

The most obvious result of improved inputs is a larger harvest, ideally leading to a greater profit. As in the above example, using a new fertilizer or a disease-resistant seed variety can dramatically increase production. However, by applying the value chain approach, inputs can be viewed as more than just a way to increase production volume. The combination of new markets and new inputs can result in what is essentially a new product. For instance, using the right seeds and fertilizers can yield a product that can be certified organic. While the product itself is the same, the market perception of it is radically different. Thus, by using the right inputs, smallholders can supply demanding international markets in today’s fast-moving world of global trade and avoid the pitfall of production unresponsive to market demand.

Improving input supply is also about more than new seeds and fertilizer. It is also about innovative ways to incorporate input supply into the value chain and make the chain itself more competitive. For instance, a value chain approach to improving access to inputs could identify input suppliers who have access to small-scale farmers and create a certification system that turns an input supply depot into a agricultural information hub. The small-scale producer will gain access to improved inputs, and the input supplier enjoys greater business through a new role. Input suppliers could further increase sales by holding farmer field days in which they demonstrate the appropriate use and storage of improved seeds and inputs.

Buyers can also actively facilitate the availability of desirable inputs. In many cases, intermediaries in the value chain, such as processors or wholesale brokers, provide inputs on credit, with repayment due upon sale of the agricultural products. Value chain performance will seriously deteriorate if good seeds are used but fertilizer is underutilized, or if a fungus ruins the crop before it is harvested. A full set of inputs is necessary to ensure optimal results.

If food productivity is going to increase to meet the demands of the world’s estimated six billion people, it is essential that the right inputs get into the hands of farmers. Improved inputs lead to greater productivity, which not only increases farmer incomes but has the potential to fight famine in many countries. We will have a much better chance of winning the race against hunger and poverty if we drive a well-tuned high-performance vehicle backed by the best talent and appropriately equipped.

By using the right inputs, such as improved seeds and appropriate fertilizers, producers can grow products for the high-value organic market, which can increase incomes dramatically.

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Maize prices in Kenya are among the highest in sub-Saharan Africa—the poorest quarter of the population spends 28 percent of its income on the crop. Inefficient production and marketing in the maize subsector contribute to economic stagnation and poverty. ACDI/VOCA’s Kenya Maize Development Program (KMDP) is committed to ensuring that maize farmers use the seeds and fertilizers that will increase production and offset these difficulties. One method the project has employed is introducing improved fertilizer varieties that balance the soil acidity and fit with existing production practices. Through use of demonstration plots, farmers can see the results firsthand. KMDP has also implemented a program to ensure not just that the right input varieties are available but that they are available in the right amounts. In Kenya, fertilizer is primarily sold in 50-kilogram bags. Even one is far too expensive for a smallholder farmer, not to mention far more than a small farm would require. KMDP began breaking the larger bags into smaller ones that were cheaper and more appropriately sized for smallholders. This effort, the first to target smallholders as a consumer market, has been expanded dramatically. With proof that smallholder farmers can pay for inputs in these smaller sizes, local shops have begun to adopt the practice, greatly increasing the number of farmers who can now access improved inputs at reasonable prices.