Hardware or Software?

Paul Polak

Over the past 15 years, IDE has focussed on identifying and mass marketing "killer technologies" like Treadle Pumps and low cost drip systems. This has been a remarkably successful way to increase the income and agricultural productivity of small poor farmers. But in the last few years our customers have repeatedly told us that they need something more. Some of them need reliable high quality seeds; others fertilizers; and still others effective ways to deal with pests and crop diseases. Most of them need access to critical information about farming. Has the time come to broaden our single minded focus on hardware to incorporate selected agricultural inputs and critical information about farming into the core IDE package?

On an investment of $30 in a treadle pump, a poor farmer clears a hundred dollars a year or more. But the profits that accrue to the manufacturer, or the village dealer, are much more meager. A 10-15% margin is not enough to support an investment in promotion and marketing sufficient to create a sustainable supply chain.. A village dealer needs to be able to sell enough product to make a living. But for this to happen, enough profit needs to be made at some point in the supply chain for a significant investment in marketing. A core problem is that in the cut-throat competitive environments of the Asian rural marketplace, most hardware products can command a sales price of little more than 10- 15% above the materials cost of the product, and this is not enough to cover the costs of a reasonable marketing campaign.

Computer software products provide an instructive alternative example. A Windows 98 program costs about $80, but the materials cost for the disc that holds the software is much less than a dollar. The information embedded on the disc is what creates the essential value that the customer is willing to pay for. Do the same principles apply to products designed for small poor farmers as customers? Would it be possible for IDE to develop packages of agricultural software that, integrated with the irrigation hardware we have already developed, can command a high enough market price in the marketplace provide a reasonable profit after covering the costs for the promotion and marketing required to build a sustainable private sector supply chain?

On a recent visit to India, Guru Naik and I the IDE drip irrigation team analyzed the relative profitability and user friendliness of different crops grown by small farmers with low cost drip systems in Eastern India. We learned that ten papaya trees could earn an income of $60 a year on a very small patch of land, about four times as much as most vegetables. Why wouldn't it be possible for IDE to design a package of agricultural inputs and information that would make it possible for each farmer who buys a treadle pump to earn an extra $60 a year by growing 10 papaya trees? How much more would he be willing to pay for the Treadle Pump package if he could increase his net annual income by $160 a year, instead of by $100 a year?

Of course, Papayas only grow in certain areas. And if too many farmers plant papayas, a glut in the marketplace could destroy the profitability of papayas, so it would probably be necessary to diversify with 5 or 6 papaya like products that are easy to grow and earn a high return, in order to lower the risk of gluts in the marketplace. This, in turn, introduces more complications.

But the basic question remains. Is it possible to design packages that integrate affordable small plot irrigation hardware, key agricultural inputs, and critical easy to understand information about farming practice, into a higher value income generating package for small poor farmers? This would provide new opportunities for a sustainable private sector marketplace.