

Book Review

Small-scale, Affordable Irrigation: Enabling Poor Farmers to Thrive!

Out of Poverty: What Works When Traditional Approaches Fail

Paul Polak

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In his Nobel Laureate Lecture in 1979, Theodore W. Schultz offered the following perspective on the economics of being poor:

Most of the people in the world are poor, so if we knew the economics of being poor we would know much of the economics that really matters. Most of the world's poor people earn their living from agriculture, so if we knew the economics of agriculture we would know much of the economics of being poor.

Indeed, most economists and other analysts could learn quite a bit about the economic dimensions of poverty by investing greater effort in learning first-hand how the poor live, how they manage their limited resources, and how they make consumption and production decisions in the face of persistent uncertainty and oppressive risk. It is not possible to fully appreciate the complexity of household decisions or the severity of conditions in which most poor farmers operate without spending substantial time in the field—observing, conversing and contemplating.

This is precisely the approach Paul Polak has taken since 1980, as he has endeavoured with great personal energy to develop meaningful, innovative methods of improving household income in developing countries. A sampling of the innovations Dr. Polak and his colleagues have designed and promoted includes affordable donkey carts in Somalia, locally made treadle pumps in Bangladesh and small-scale drip irrigation systems in Nepal. These and other innovations are based on detailed observations and discussions involving thousands of small-scale farmers and their families.

Dr. Polak, quite literally, has ‘walked the walk’ of a poverty reduction programme that actually reduces poverty . . . and generates results within a reasonable amount of time! One of Dr. Polak's tenets regarding viable interventions is that smallholders investing in a new machine or crop production method must be able to re-capture the investment in just one year. Poor farmers must be assured in advance they will not lose money if they adopt a new technique. A loss could leave them subject to severe treatment by a moneylender who might take title to their land. For most dollar-a-day farmers, land is a precious resource that must be retained over time, even if they must forego innovations that would increase yield, yet also increase the risk of monetary losses.

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Reducing poverty successfully requires a sharp focus on the poor—not just on their situation in aggregate, but on their personal struggles, the challenges within their households, and the issues they face in obtaining inputs, producing crops, managing livestock and moving their produce to markets. Dr. Polak describes these aspects of poverty through a series of narratives involving several farmers and city residents he has worked with and learned from, over the years.

Krishna Bahadur Thapa transformed his traditional, small-scale, low-income farm in Nepal into a relatively thriving income generating operation by installing a low-cost drip irrigation system, enabling him to produce vegetables for sale in the dry season. Vegetables bring a much higher price during the dry season, but one must have irrigation to support production. John Mbingwe and his wife achieved similar success in Zambia, after installing a treadle pump that enabled them to obtain water for irrigation with much less labor than was required to carry buckets of water from a distant source. With the additional time and labour, the couple expanded their production from one-eighth of an acre to a full acre. They repaid the loan for their treadle pump within one year and their annual net income increased from \$300 to \$600.

The notion of a loan is one of several key features of Dr. Polak's approach to reducing poverty, which he summarizes as follows:

To move out of poverty, poor people have to invest their own time and money. The path out of poverty lies in releasing the energy of Third World entrepreneurs. The good news is that the small-acreage farmers who make up the majority of dollar-a-day people are already entrepreneurs and they are surrounded by thousands of other small-scale entrepreneurs operating workshops, stores, and repair shops. All these entrepreneurs are willing and able to invest in creating their own wealth if they can gain access to opportunities that are affordable and profitable enough to attract them.

This philosophy is reflected also in the principles that guide the company Dr. Polak founded in 1981, with the goal of developing and promoting affordable innovations in production techniques that enable dollar-a-day farmers to improve their livelihoods. The core values of International Development Enterprises (IDE) include a focus on markets as a powerful force for poverty reduction. Interventions that require poor households to invest in new production methods are more successful than programmes involving subsidies.

The approach is working quite well in several countries. Dr. Polak notes that IDE has “already sold more than two million treadle pumps to dollar-a-day farm families, increasing their net annual income by more than \$200 million per year, and creating a multiplier impact on poor villages of at least \$500 million per year”.

Entrepreneurship among the poor exists in both urban and rural settings, and also in the deplorable slums in which far too many of the world's poor reside. An estimated 1 billion persons live in slums today, and the number might reach 1.4 billion by 2020. An estimated 43% of the urban population of developing regions lives in slums, and the urban population of poor countries is increasing rapidly. If there is any good news at all pertaining to slum environments, perhaps it is the spirit of entrepreneurship that many residents maintain.

Dr. Polak tells the story of So Samsuddin, originally from Tamil Nadu, who at the age of 18 moved to Dharavi, one of Mumbai's largest slums, covering about 450 acres. Against the odds of success in the cramped, squalid conditions of Dharavi, Mr. Samsuddin and his wife started a small company producing a popular sweet dessert. Over time, with great

effort, they grew the business into a very successful enterprise. Dr. Polak suggests there are many similar stories of successful entrepreneurs in slum environments. There is also a wealth of cheap, talented labour waiting for opportunities to become gainfully employed.

A 'small-but-beautiful' theme is evident in *Out of Poverty*, as Dr. Polak describes how farm households can earn substantial income from very small plots and how slum residents can operate a small business with very limited space. He also suggests that many 'landless' residents of rural areas actually have "functional access to at least 100 square meters of arable land provided by the landlord or the village commons, if they do not own it themselves." Many residents actually plant small gardens in yards or on rooftops. This observation is insightful and encouraging, given the large numbers of labourers and other residents of poor countries whom we normally consider to be landless. They, too, might be willing and eager to invest in small-scale drip irrigation systems or to purchase seeds and fertilizer that will enhance crop yields.

Another persistent theme in the book is that often researchers and policy analysts overlook an obvious, practical solution while seeking or promoting a more complicated approach. Often the best way to improve a livelihood or enhance a household's food security might involve a small loan, a simple technology or a small-scale irrigation system. Dr. Polak makes a compelling case for paying closer attention to farmers and their families, spending substantial time in the field, and trusting the intuition that develops with thoughtful empirical investigation.

Dr. Polak describes four 'simple and obvious' points he has learned by visiting thousands of small-scale farmers in poor countries over the years: (1) most poor persons are poor because they lack sufficient income; (2) most of the extremely poor people in the world earn their living from 1-acre farms; (3) they can earn much more income if they sell high-value, labour-intensive crops such as off-season fruits and vegetables; and (4) producing high-value crops requires access to very cheap small-farm irrigation, good seeds and fertilizer, and markets where farmers can sell their crops at a profit. Thus the key to reducing poverty and improving livelihoods is providing farmers with affordable irrigation systems that can be produced, maintained and repaired locally, while ensuring that farmers have access to inputs and markets.

Out of Poverty provides a wonderful opportunity to share in the knowledge and intuition Dr. Polak has gained throughout his career. Professor Schultz would probably be pleased that a fellow scholar and development practitioner has invested so much time and effort investigating the economics of being poor and studying the economics of agriculture in poor countries. The results have been outstanding. Hopefully many readers of this book will be inspired to join the cause of reducing poverty and improving livelihoods by designing affordable innovations that meet the needs of millions of poor farmers.

Reference

Schultz, T. W. (1980) Nobel Lecture: the economics of being poor, *Journal of Political Economy*, 88(4), pp. 639–651.

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