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Abstract for an Invited Paper for the APR15 Meeting of the American Physical Society

Leo Szilard Lectureship Aware Talk: Technology development and innovation for the bottom of the economic pyramid

ASHOK GÂDGIL, Lawrence Berkeley National Laboratory and University of California, Berkeley

Directed development of new technologies to solve specific problems of the poor in the developing world is a daunting task. Developing countries can be a wasteland littered with failed technologies sent there with much goodwill and effort from the industrial countries. Drawing on my team's experience I summarize our answers to some key questions for the technology designer or developer: How might one go about it? What works and what doesn't? What lessons can one draw from an examination of select successes and failures? The key lessons from our experience are: (1) successful technology design and implementation can not be separated from each other – they are tightly intertwined, (2) social factors are as critical for a technology's success as factors based on engineering science, and (3) ignorance of political economy, behavioral economics, organizational behavior, institutional imperatives, cultural norms and social drivers can prove fatal flaws when a new technology leaves the laboratory and meets the real world.