Breakthroughs for Development

THERE ARE MANY WAYS TO DESCRIBE THE GOAL OF INTERNATIONAL DEVELOPMENT, BUT ONE IS TO think of it as changing a situation in which billions of people have access to the benefits of science and technology while billions do not. Throughout history, some of the greatest successes in development have come from extending the reach of scientific and technological breakthroughs to those who lacked access. We must continue to harness the ingenuity of the world’s top researchers and scientific leaders to achieve development goals.

Over the past 50 years, the U.S. Agency for International Development (USAID) has partnered with the global scientific community to pioneer many innovations that have fueled major successes: a new vaccine delivery approach that ensured global smallpox eradication; oral rehydration solutions that prevented diarrheal diseases from rapidly killing millions of children; and new strains of wheat and rice that ushered in the Green Revolution, preventing widespread starvation and poverty. In recent decades, budget cuts and shifting mandates pulled the agency’s focus away from emphasizing science and technology. Today, President Obama, Secretary of State Clinton, and I are working to recapture this legacy in science and technology, recognizing the power that breakthroughs have to transform insurmountable development challenges into solvable problems.

This transformation starts with identifying critical development needs, bringing together scientists, researchers, and innovators to invent new solutions, and scaling those solutions to reach those who need them most. In most cases, the innovations required to solve global challenges have yet to take shape. How can we teach a child to read who will likely never set foot inside a classroom? How can we bring light to the millions who lack access to electricity? These questions don’t have easy answers, so we must challenge the world’s brightest thinkers to develop solutions. We recently introduced Grand Challenges for Development, a grant competition designed to focus entrants on overcoming roadblocks to progress. The first Grand Challenge, Saving Lives at Birth, called for inventive ways to protect pregnant women and newborns during childbirth outside of clinical settings, generating nearly 600 submissions, such as low-cost incubators or mobile phone apps to monitor blood loss. Future Grand Challenges in education, energy, and agriculture will be announced over the next several months. And earlier this month, USAID launched Partnerships for Enhanced Engagement in Research (PEER) with the U.S. National Science Foundation (NSF). This program will unite NSF-funded U.S. scientists with their counterparts in the developing world, who will receive grants from USAID, to address shared global challenges and build long-term scientific collaborations and capacity.

Once developed, innovations must be scalable. Last month, the United States joined foundations and donor countries at the Global Alliance for Vaccines and Immunisation pledging conference, collectively committing more than $4 billion toward ensuring that every child has access to new vaccines against pneumococcus and rotavirus. These vaccines will help protect children against pneumonia and diarrhea—the two leading causes of global child death—and save the lives of 4 million children in just 5 years. Partnership with the alliance and private-sector vaccine manufacturers has helped drive down the cost per dose, allowing partner governments to purchase them cheaply and deliver them widely. By creating certain demand, vaccine manufacturers are able to increase their production and lower their costs—a pattern USAID has also employed with bed nets, HIV/AIDS medication, and hybrid drought- and disease-resistant seeds.

As we mark the agency’s 50th anniversary, USAID will continue to seek transformative scientific breakthroughs and drive efforts to deliver them to those in greatest need. But it will take the active participation, focused commitment, and ingenuity of the global scientific community to tackle development challenges and build a better future.

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