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Bending the Curve of Development

Throughout history, the greatest leaps in social and economic development have come when the development community chose to do things a little differently, investing in new technologies, forging strong public-private partnerships, and leveraging the expertise of local communities to generate groundbreaking solutions.

This approach enabled some of the most significant achievements in modern development: a new vaccine delivery tool that made global smallpox eradication possible; oral rehydration solutions that prevented diarrheal diseases from rapidly killing millions of children; a polio vaccine that has helped nearly eradicate the debilitating disease; and new strains of wheat and rice that ushered in the Green Revolution, preventing widespread starvation and poverty.

We need to learn from these experiences, harnessing the same approach to generate groundbreaking solutions against some of the toughest challenges in development today.

Consider the phone. Fifteen years ago, hardly anyone could have imagined that the mobile phone would become one of the most powerful development tools in existence. Today, mobile phones are ubiquitous, having moved in less than a decade from the briefcases of the wealthy to the pockets of farmers, teachers, and health workers nearly everywhere on earth.

Today, thanks to mobile technology, poor farmers can use text messages to compare prices and get more for what they grow. Community health workers can use phones to collect information and track disease outbreaks in real time. Protestors can use them to document and share videos of electoral violence. And mobile banking can give billions the chance to save money for the first time.

This is not to suggest that technology itself solves all our problems. But new tools like the mobile phone have created a sense of possibility that motivates diverse actors, including governments, the private sector, and local communities, to come together to generate dramatic results.

In order to leave behind generational legacies of success, we cannot afford to stick with the status quo or be content with linear and incremental gains.

Technical staff members from the Litani River Authority rehabilitate the face joints of the Qaraoun Dam in Bekaa, Lebanon, through the USAID-funded Litani River Basin Management Support Program. The program inspected the dam in November 2010 to detect minor leaks from aged joints. | Photo: Nabil Amacha/Litani River Basin Management Support Program

We need to see over the horizon, adopting lessons from our own history to bend the curve of progress and foster a spirit of entrepreneurism and innovation that can dramatically accelerate development.

In some areas, in particular, we stand poised to achieve transformational results through the power of science and technology. We can harness innovation to help communities build real resilience to disasters, so that droughts do not shatter development gains or give rise to violence. We can develop new production technologies, like better seeds, fertilizer, and irrigation systems, to significantly boost harvests and fight poverty. And we can scale up proven technologies, like vaccines and bed nets, as we develop new scientific breakthroughs to help bring an end to preventable child deaths.

Development is full of competing priorities, but only a few represent significant opportunities to have the greatest impact at the lowest cost. Innovation, partnership, and the inspiration born of local solutions hold the key to achieving unprecedented gains in human health, prosperity, and dignity.

Building Resilience through Innovation

Last year, Dr. Jill Biden, Senator Bill Frist, and I traveled to Dadaab, Kenya, site of what has now become the largest refugee camp in the world. In 2011, the worst drought in 6 decades forced more

than 290,000 Somalis to seek refuge in neighboring countries.

The drought caused enormous suffering throughout the Horn of Africa, where more than 13.3 million people needed emergency assistance. In southern Somalia, where 20 years of conflict wore down the country's ability to cope, the drought led to a famine. At least 3 of every 10 children there were malnourished, and 2 out of every 10,000 people were dying each day. One in five lacked access to basic foods like bread or rice.[1]

While we cannot stop disasters from occurring, we can do much more to help people withstand them, whether it is a drought in the Horn or an earthquake in Haiti. The development community has to expand its focus from relief to resilience—from responding after emergencies strike to preparing communities in advance.

In the Horn, this effort began with an innovative early warning system we established years ago in partnership with the U.S. Geological Survey, NASA, and the National Oceanic and Atmospheric Administration. Able to predict the severe drought months in advance, we shipped food ahead of time to storage sites in the region so we could quickly distribute it once crisis struck.

Because studying past famines showed us that preventable disease, not hunger, was the leading cause of death among children under five, we stockpiled vaccines in advance of the crisis. And we helped communities in Kenya build catchments so they could collect and store as much water as possible before the drought.

As we shift our focus to long-term resilience, some of the most important innovations are not focused on saving lives, but saving livelihoods, enabling individuals to hold onto their sources of food and capital throughout a crisis.

In Kenya's drylands, families rely on livestock for 95% of their incomes, making them especially vulnerable in times of drought. To help strengthen their ability to cope, we are focusing on their animals by promoting vaccine programs and accessible veterinary care. Since the onset of the drought, we helped vaccinate nearly 300,000 livestock, protecting this main source of income for some 25,000 Ethiopian households.

But it is not just vaccines and new knowledge about resilience that is making it possible to help vulnerable populations weather adversity. Today, significant advances in actuarial science have allowed us to partner with insurance firms to pilot cutting-edge microinsurance programs to compensate farmers and herders who suffer grave losses. Last October—during the height of the drought in the Horn—those programs made payments to more than 600 cattle herders who had purchased coverage for their animals earlier that year.

Bridging the divide between disaster response, resilience, and sustainable development is not easy, but it is critical to saving lives more effectively in an emergency, and it is essential in our efforts to ensure that droughts no longer lead to food crises.

Pioneering a New Approach to Agricultural Development

In 2008, the balance of the world shifted, as more people lived in urban settings than in rural communities for the first time in history. But despite the rapid growth of cities and the slums that tend to surround them, poverty has remained, by and large, a rural phenomenon. The majority of the very poor and hungry are still farming families who tend small plots of land. That is especially true in countries like Ethiopia and Tanzania,

1 Jason Corum, "Understanding the Declaration of Famine in Somalia," World Food Program USA, July 27, 2011, http://usa.wfp.org/blog/understanding-declaration-famine-somalia.

where three out of every four workers lives on a farm. For most poor people in the world, tending the land is one of the only ways to earn money and feed their families.

That is also why almost every country that has emerged as a developed economy has done so by increasing the productivity of its farms. In fact, just a 1% gain in agricultural production can generate a 46% increase in the purchasing power of the poor.[2] As a result, growth tied to gains in agricultural productivity is up to three times more effective in raising the incomes of the poor than from other sectors.

Simply put, fighting poverty means boosting harvests.

At the 2009 G8 Summit in L'Aquila, Italy, governments agreed to reinvest in food security, in large part because of personal appeals made by President Obama. Most critically, these governments pledged to direct their funding in a very different way.

This new approach, embodied in President Obama's global food security initiative Feed the Future, directs money toward plans that are developed and led by partner countries and focused on smallholder farmers, especially women. The strategies emphasize science and technology to increase agricultural output and private-sector investment to develop strong market linkages. Within this framework, Feed the Future is investing across 20 countries in the specific crops and regions that our partner countries believe will most rapidly spur economic growth and fight malnutrition.

To accelerate progress, we are focusing on scaling up access to agricultural technologies and prioritizing research into new seeds that can withstand droughts, thrive in floods, and resist climate change. As a result, vitamin A-rich sweet potatoes are now helping children in vulnerable regions like the Horn of Africa resist disease and improve their nutrition.

In the last three years, we have more than doubled our agricultural research investments, building new bridges between U.S. universities and their counterparts in the developing world. In the Philippines, USAID and the U.S. Department of Agriculture worked with two U.S. universities and the International Rice Research Institute to develop submergence-tolerant rice. More than one million farmers are already seeing improved harvests. By partnering with national rice research centers across South Asia, we hope to reach 70 million more people.

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We also saw staggering results last year in Haiti when we piloted a program designed to intensify rice yields through improved planting techniques in the areas surrounding Port-au-Prince. Haitian farmers saw their yields increase by almost 120%, while lowering their cost of production. The farmers even cut 10 days off their normal harvest. Today, that program is being expanded to reach farmers in other priority development areas throughout the country.

Although innovation in agricultural

2 Ethan Ligon and Elisabeth Sadoulet, "Estimating the Effects of Aggregate Agricultural Growth on the Distribution of Expenditures," Background Paper for the World Development Report 2008, siteresources.worldbank.org/INTWDR2008/Resources/2795087-1191427986785/LigonE&SadouletE_EstimatingEffectsOfAggAgGr.pdf.

development begins with new research and breakthrough technologies, it does not end there. In order for agribusinesses to thrive, smallholder farmers need access to durable supply chains, reliable sources of capital, and affordable insurance products. And women farmers need exactly the same access as men. Without these fundamental elements, farmers cannot succeed—here in the United States or anywhere else.

That is why we are helping unlock the power of the global—and local—private sector through innovative, high-impact partnerships that can deliver profits for companies, lift up smallholders, and reduce poverty at the same time. As important to agricultural development as a new seed or irrigation system, these public-private partnerships abide by high standards of responsibility, transparency, and accountability—in deep contrast to some of the more controversial private-sector engagements of the past. As we work, we are also consistently measuring and evaluating our efforts to ensure that our investments effectively empower women in their businesses and lives.

This past year, we partnered with PepsiCo and the World Food Programme to help 10,000 chickpea farmers improve their yields and join PepsiCo's supply chain. PepsiCo will use those chickpeas to create a highly nutritious food paste to sell to the World Food Programme, which can use it to save the lives of malnourished children.

We are also working with J.P. Morgan to drive capital toward East African agribusiness. Along with the Bill & Melinda Gates, Gatsby, and Rockefeller Foundations, we enabled a Kampala-based fund manager to invest $25 million in at least 20 agriculture firms throughout the region, raising incomes for at least a quarter of a million households.

Inspired by the legacy of the Green Revolution, it is easy to think of new seeds as the silver bullet. But success will be determined not just by investments in science, but also by our ability to mobilize responsible private-sector investment to generate real results. Ultimately, we can help developing countries transform their economies, reduce poverty and address the staggering rates of malnutrition that rob children around the world of their potential.

Ending Preventable Child Deaths

When we emphasize the importance of breastfeeding, train a community health worker to use a low-cost bag mask to help newborn babies breathe, or provide bed nets, we do not often stop to consider that we are harnessing significant innovations in development. But it is precisely these breakthroughs that make it possible today to achieve an unprecedented legacy in global health.

Thanks to tremendous progress over the last several decades, the global community has the knowledge and the tools to end preventable child deaths and bring child mortality in the developing world into parity with the developed world.

But in order to realize this vision, we need to do things very differently. We need to engage more effectively with emerging economies that do not receive development assistance, but have the ability to reach this goal. We need to figure out how to improve the rate of child survival in large countries that have lagged behind, including Nigeria and the Democratic Republic of the Congo. And we need to help shape a policy and political environment that can maintain focus on this critical goal in a fast-moving world that always offers new priorities.

The effort to end preventable child deaths begins even before the moment of birth. Through the President's Emergency Plan for AIDS Relief, we are ensuring pregnant HIV-positive women can give birth to an AIDS-free generation. On World AIDS Day in 2011, President Obama announced that the drop in the cost of a year's supply of AIDS

medication—from $1,100 to $335—allows us to provide lifesaving medication to six million people.

Because many infants die from asphyxia during their first "golden minute" of birth, our Helping Babies Breathe partnership is equipping midwives and caregivers with low-cost tools that can help newborns take their crucial first breaths. That is also the spirit behind *Saving Lives at Birth: A Grand Challenge for Development.* This global competition we helped launch last year garnered more than 600 cutting-edge ideas to help mothers give birth safely in low-resource settings, including a creative device to resuscitate newborns at one-fortieth the cost of currently available tools.

It is only recently that we began to understand the long-term societal consequences of widespread stunting—or how easily an effort like breast-feeding or child nutrition could fight this hidden hunger. To support these simple, effective, and life-saving interventions, our 1,000 Days Partnership is shifting our nutrition efforts to focus on the critical window between a mother's pregnancy and her child's second birthday.

Thanks to the dramatic scale-up of malaria prevention and treatment efforts under the President's Malaria Initiative—driven, in part, by new long-lasting insecticide-treated bed nets and combination therapies for children who get sick—we have seen extraordinary results in child survival around the world. In Senegal, child mortality declined by 40% in five years, largely because preventing children from contracting malaria creates a cascade of other life-saving health benefits.

This past summer, when children arrived with their families at the Dadaab refugee camp in Kenya, they received polio, measles, and pneumococcal vaccines at the point of registration. It was only recently the world came together to help ensure that children everywhere have access to the latest vaccines that will protect them against pneumonia and diarrhea, the two leading causes of global child death. Offering a lifetime of protection, vaccines remain one of the smartest, most effective investments we can make in global health.

Chairwoman Rose Peter of the Upendo Women Growers Association in Mlandize, Kibaha, Tanzania, shows off the first batch of sweet peppers the women have grown in their new greenhouse. The 22 women in the group received support, training, and technical assistance through USAID Tanzania's Feed the Future Initiative. | Photo: USAID

Interventions are only truly successful when they reach those who need it most. For instance, although oral rehydration therapy has been hailed as one of the greatest development innovations in recent history, less than 40% of children with diarrhea in developing countries receive the life-saving treatment. By focusing on this key bottleneck, we can dramatically

The newborn daughter of an HIV-positive mother receives the antiretroviral drug Nevirapine at the Paarl Hospital, about 70 km from Cape Town, South Africa. Some 70,000 babies are born HIV-positive annually as a result of mother-to-child transmission of the virus, which afflicts one in nine South Africans.
AFP Photo: Anna Zieminski

reduce childhood mortality from diarrhea, which kills 1.3 million children under 5 every year.

To close gaps like these, we have established the Center for Accelerating Innovation and Impact at USAID, designed to help rapidly transform new scientific and technological discoveries into life-saving impact in the field. The Center will support our efforts to work more closely with product manufacturers, ensure our country programs can rapidly introduce cost-effective technologies, and serve as a hub for learning and knowledge dissemination around this critical task.

To realize the goal of ending preventable child deaths, we need to do more than spur innovation. We have to overcome final barriers to success, transforming facility-dependent programs designed to treat diseases into community-driven programs focused on treating patients. When expectant HIV-positive women receive medication to protect their children, they should also receive a bed net to take home. And children should receive nutritional supplements and their vaccinations at the same time.

By working closely with countries and continuing smart investments in global health, we can bring the rate of child mortality in poor countries to the same level it is in rich countries. This tremendous achievement would not only save millions of lives, but would help nations accelerate economic growth through a shift in their population called

the demographic dividend. As children live longer and family sizes decrease, the productive share of a population rises with the percentage of those able to work—usually those between 15 and 64—much larger than the share of the very young or very old. Along with smart economic and labor policies, that demographic pattern can add as much as two percentage points of growth annually.

Development is full of problems we have few ways to solve, but leveraging innovation to help children reach their fifth birthday is not one of them.

Bending the Curve

Throughout the history of the United States, our nation's development has been defined by a drive for innovation and an unfailing determination to push the boundaries of science and technology. From advances in medicine that eliminated some of society's most debilitating diseases to cutting-edge strategies for combating droughts and effectively managing drylands, we have continually looked to science and technology to overcome immense challenges. Today, when drought threatens our farmers and ranchers, they can buy insurance products, access our government's real-time data-monitoring systems, and count on our universities to study the problem and foster new solutions.

Even as we support developing countries as they chart their own futures, we can learn from our own history to help unleash human ingenuity around the world. As President Obama and Secretary Clinton have both emphasized, the focus of the development community must always be to work ourselves out of business, replacing our efforts with those of responsible institutions, thriving civil societies, and vibrant free markets.

To help build genuine country ownership, we recently launched a major effort—the most significant in our history—to shift 30% of our investments toward local entrepreneurs, NGOs, and partner governments by 2015. By putting more resources in the hands of those who need it, we help empower change-agents who have the cultural knowledge and expertise to ensure our assistance leads to sustainable development.

That is why we created the Development Innovations Ventures fund to find and support entrepreneurs throughout the world who have a good idea and need the resources to test it. That is why we developed Grand Challenges in Development to encourage innovators—no matter where they live—to break through development's most intractable problems. That is why we are harnessing mobile banking platforms in nations like Haiti and Afghanistan to expand opportunity and catalyze local wealth creation. Today we have mobile banking programs in four countries. By next year, it will be 20. And that is why, right now, USAID teams dedicated to finding investments and empowering entrepreneurs are on the ground in places like Cairo, Lima, Nairobi, Bangkok, and Dakar.

Today, the very challenges that confront us also dramatically expand the realm of possibility in development. In our work to build resilience, fight poverty, and improve child survival, we can bend the curve of development, realizing transformational leaps of progress that would have been unimaginable only a decade ago. By working closely with innovators and entrepreneurs around the world, we can seize these unprecedented opportunities and help developing countries solve some of the greatest challenges of our time.

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