

THE CHEVRON FORUM ON DEVELOPMENT

A CASE STUDY ON INNOVATIONS IN DEVELOPMENT

Leveraging Technology Innovation to Solve Development Challenges: A Case Study from HP

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THE TRANSFORMATIVE POTENTIAL OF SCIENCE AND TECHNOLOGY

Gains in science and technology have a tremendous impact on advancing living standards and are increasingly recognized as vital components of development efforts. Tapping into the transformative capabilities of new technologies and applying them to solve traditional challenges in health, education, and agriculture has the potential to unleash economic growth and trigger leaps in global development. The public and private sectors alike are increasing their efforts to promote and leverage science, technology, and innovation to create social and economic value.

ALIGNMENT WITH U.S. DEVELOPMENT POLICY: THE USAID OFFICE OF SCIENCE AND TECHNOLOGY

The Office of Science and Technology (S&T) is a critical component of USAID's strategic reform agenda—USAID Forward. USAID established it to harness the potential of science and technology and become a leader in leveraging game-changing innovations for foreign assistance. Driving the work of the Office of S&T are several principles, including:

- Science and technology are fundamental to development and can be used to delineate development challenges, find unique solutions to traditional problems, and unleash economic growth.
- Today's global challenges are trans-boundary and require solutions built on collective knowledge that spans geographical, political, and cultural lines. Partnerships and information sharing will be crucial to achieving shared objectives.
- Knowledge, creativity, and talent are everywhere. Internet

and communication technologies can be used to empower individuals to participate in the development process, tapping into a wealth of knowledge for more bottom-up solutions.



- There is a discrepancy between developing and developed countries in access to the knowledge and information that exists today. Closing this knowledge gap is critical and can equip individuals in developing and emerging market countries with the information to make unprecedented leaps in development.

To meet its objectives and contribute to the overall success of USAID, the Office of S&T has four key priorities: (1) Launching a series of Grand Challenges for Development to address audacious problems in development, expand the community of solvers and solutions, and catalyze global action; (2) Harnessing the resources, intellectual property, and expertise of federal science agencies and academic institutions to advance development; (3) Bolstering science and technology capabilities within the agency; and (4) Establishing a “GeoCenter” for spatial analysis that will facilitate planning, monitoring, and evaluation of projects, as well as communication of results.



PRIVATE-SECTOR ENGAGEMENT: A CASE STUDY FROM HEWLETT-PACKARD (HP)

HP has a long history of global citizenship. They believe deeply in leveraging their innovations as a leading technology company to go beyond creating shareholder value to simultaneously produce social value.

HP’s Sustainability and Social Innovation team uses all of the company’s resources – the technology, innovation, partnerships and the talent and skills of its employees – to address global challenges in the areas of healthcare, education, and the environment.

The team designs projects based on the needs of the local community as well as the company’s portfolio of solutions and growth aspirations; where these intersect, HP sees the greatest value for investment. This helps establish “reference cases” that help transform the way healthcare and education are being delivered and demonstrate the breadth and depth of HP’s portfolio, cultivate customer relationships, and eventually help strengthen its position for market development.

Moreover, HP aims for positive impact and drives to help conserve more than it consumes as a company by applying its scale, portfolio, and partnerships both to reduce its own environmental impact and to help customers be more efficient and adopt more sustainable processes and behaviors.

“With gains in communication and Internet technology... you [can] move from a handful of development agencies to 7 billion development agents....”

—Alex Dehgan

HIGHLIGHTS IN HEALTH

Diagnosing Infant HIV in Kenya

Approximately eight percent of pregnant women in Kenya are HIV positive^[1] and nearly half of all babies born with the virus who go untreated do not live past the age of two.^[2] Despite Kenya’s extensive blood testing of newborns, a paper-based manual system delays receipt of results: often it can take up to four months, well beyond the timeframe when antiretroviral drugs can be effectively administered.

In collaboration with the Clinton Health Access Initiative and the Kenyan Ministry of Health, HP created the Early Infant Diagnosis (EID) program to use technologies to rapidly deliver life-saving results. Five data centers were established and connected to four existing laboratories that enabled quick and efficient testing of blood by using barcodes to identify each sample. Results are tracked in a master database that are then made available to doctors online or sent to clinics through an SMS-operated printer: altogether this allows just a two to three day turnover.

The technology infrastructure supporting this program is now being rolled out in Uganda and is expected to transform and improve other health programs. In 2011, approximately 65,000 infants were tested in Kenya through EID, and HP expects that more than 70,000 tests will be completed in 2012.

Detecting Counterfeit Drugs in Nigeria and Ghana

Production of counterfeit drugs is a global challenge, disproportionately affecting developing countries with poor regulatory frameworks. The industry was valued around \$75 billion in 2010^[3] and claims hundreds of thousands of lives annually. To address this issue – which affects consumers and producers alike – HP leveraged its investments in technologies that help overcome counterfeiting of products in its own supply chains and applied it to this life-threatening social issue. Specifically, HP and its partners established the Global Authentication Service wherein pharmaceuticals are labeled with scratch-off identification codes that consumers can, upon purchase, SMS to a secure database for nearly instant verification that the medicines are not counterfeit. The system is both scalable and highly accessible, utilizing basic mobile phones to access a cloud-based system through free text messaging. With the African social enterprise mPedigree Network, HP launched the Global Authentication System in 2010 in Ghana and Nigeria. Initially for use with select anti-malarial drugs, the system has since been endorsed by the West African Health Organization and expanded to include other medicines and locations.

¹ Kenya National Bureau of Statistics (KNBS) and ICF Macro, Kenya Demographic and Health Survey 2008–09 (Nairobi: KNBS, 2010), p. 219, <http://www.measuredhs.com/pubs/pdf/fr229/fr229.pdf>.

² UNAIDS, “Early diagnosis and treatment save babies from AIDS-related death,” May 27, 2009, <http://www.unaids.org/en/resources/presscentre/featurestories/2009/may/20090527unicef/>.

³ Paul Toscano, “The Dangerous World of Counterfeit Prescription Drugs,” CNBC.com, October 4, 2011, <http://www.cnbc.com/id/44759526/>.



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