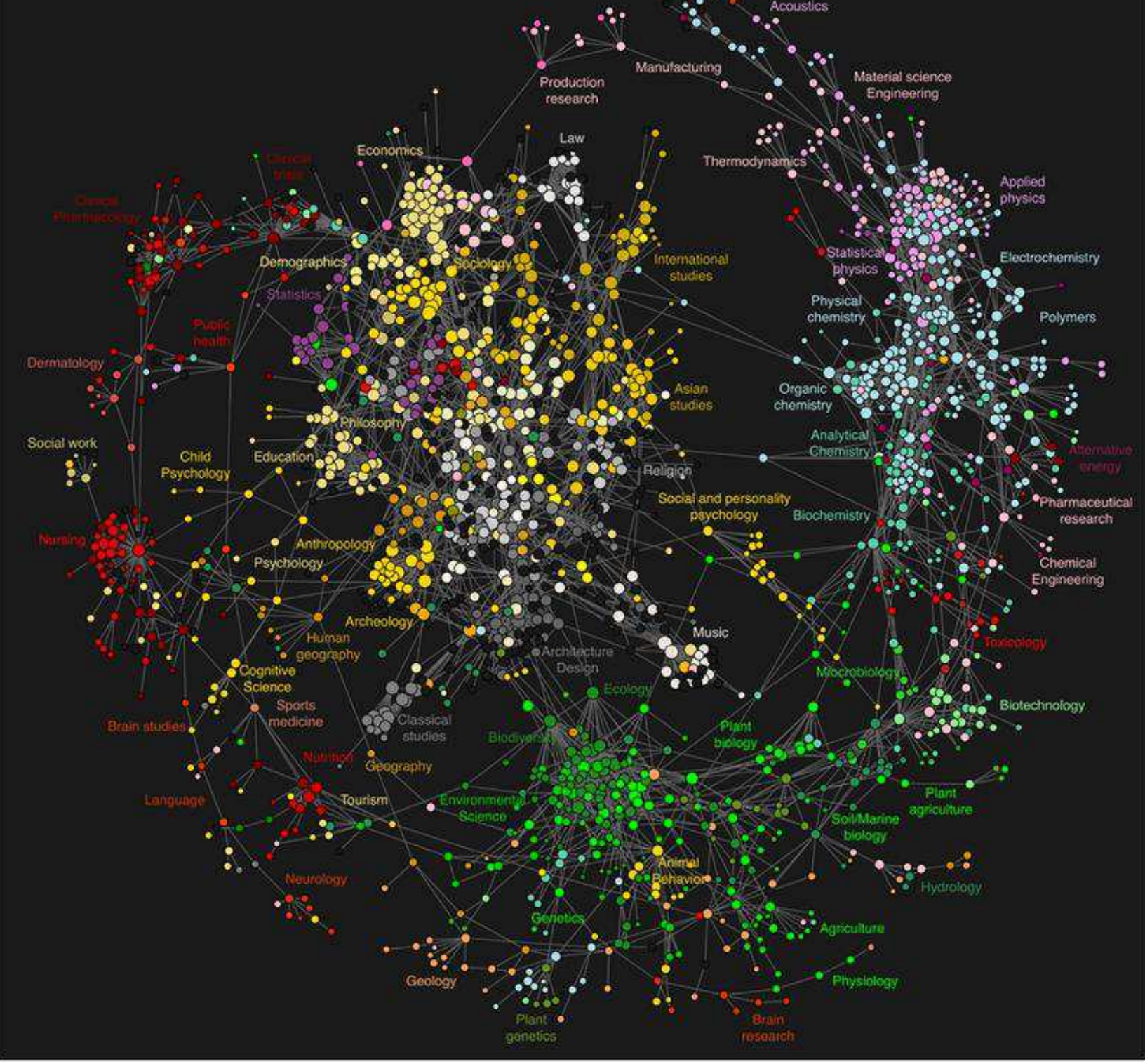

GLOBAL KNOWLEDGE INITIATIVE

2011 - 2012 Annual Report

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Cover art credits: The "Map of Science" produced by a research team including Johan Bollen, Herbert Van de Sompel, Ryan Chute, and Lyudmila Balakireva of LANL's Digital Library Research and Prototyping Team and Aric Hagberg, Luis Bettencourt, and Marko A Rodriguez of LANL's Mathematical Modeling and Analysis Group, and LANL's Center for Nonlinear Studies.

GKI: Supporting rural livelihoods through innovation

The most valuable manufactured export in Rwanda is specialty coffee. A team of researchers from the "Land of a Thousand Hills" won GKI's inaugural LINK competition to build a purpose-driven network capable of saving smallholder farming families from the scourge of a coffee pest threatening their livelihoods.

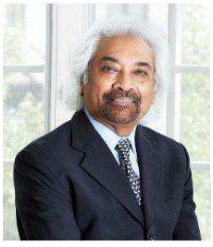
Letter from the Chairman

The development model based on 20th century consumptive patterns and top-down institutions is neither sustainable nor desirable. We require new answers and new models to promote inclusive growth that serves the needs of those at the bottom of the pyramid, not those who already have a lot. We need a new development paradigm that enables the lone solver to contribute her talents and knowledge to the world's most pressing challenges; one that provides a student, no matter his circumstances, access to a world-class education; one that assures the problems of the poor get the attention they deserve.

It is this innovative model of development the Global Knowledge Initiative seeks to stimulate and support. Emerging from the 2008 Higher Education for Global Development Summit at which 200 university presidents from around the world joined me, the US Secretaries of State and Education, and the Administrator of the US Agency for International Development, the Global Knowledge Initiative offers a way to magnify the efforts of individuals and institutions to solve global challenges. We accomplish this task by upholding a systems-based approach to collaborative innovation that values the smallholder farmer and the Ph.D. researcher equally. We also incorporate capacity building and training into all of our activities to ensure our investments and those of our partners live on after a specific project or program ends. Finally, we are committed to maintaining a streamlined organizational structure capable of delivering nimble responses to partners' needs. The strength of our organizational model lies in its ability to link people to the global network of problem solvers to deliver previously untapped resources and partners. As the world moves away from the unsustainable development models of the 20th century, the future lies in these creative, adaptable approaches.

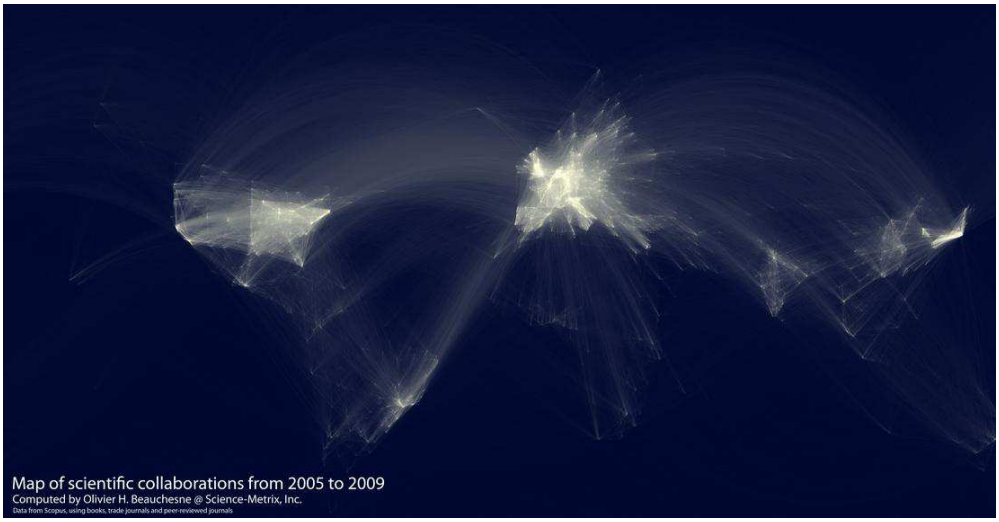
As the Global Knowledge Initiative enters its third full year of operation, we look ahead with both excitement and humility. We are thrilled about the forthcoming opportunities to expand our partnership base, scale our programs, and grow our impact globally. The expanding number of advisors, sponsors, and allies throughout the world that support and guide our work also humbles us. Thank you for allowing us to represent and serve you.

With this annual report, we invite you to learn more about our organization and our accomplishments of 2011-12 and see where we are heading next. For your continued support and interest in the Global Knowledge Initiative, I offer my personal thanks.



Sam Pitroda
Chairman

Letter from the Chief Operating Officer



In January 2011 Olivier Beauchesne at Science-Metrix released a "Collaboration Map" of Earth. Using co-authored articles published in indexed journals, he extracted and aggregated scientific collaboration between cities all over the world. The process resulted in a long list of city pairs, like Los Angeles-Tokyo, and the number of instances of scientific collaboration between them. More striking than its beauty is the map's simple depiction of connectedness. For those in upper and middle-income countries, the world of science is alight with collaborative sparks. For those in developing countries, darkness pervades. What is the cost of being disconnected?

The silo-busting challenges of today are complex and multi-sectoral. Those who succeed in tackling them are the solvers in what the Global Knowledge Initiative (GKI) calls "*The Collaboration Era."* Their success implies mastering linkage-creation, cooperation, and navigation across domains of knowledge — agronomy, biology, architecture, mechanical engineering, hydrology, zoology — which previously existed in silos.

At the *First Africa Forum on Science, Technology, and Innovation (STI)* (1-3 April 2012, Nairobi), the Global Knowledge Initiative set the stage for 400 scientists, policymakers, and innovators with a "tale of two Africas." The first we call "Amazing Africa." It's a place where STI is harnessed to propel economic expansion, competitiveness, and progress. In "Amazing Africa," people live happier, healthier, and wealthier lives. This is a future in which agriculture is transformed. The full potential of biotechnology is unleashed. Productivity per farmer surges. Better access to a range of technological inputs, from seeds to fertilizer to processing and production technologies, helps the value per hectare of the land soar.

"Amazing Africa" is a place of smarter development policies too. It is a continent marked by transformed human capital. A widening base of citizenry who are science literate is paired with a surge in STEM (science, technology, engineering, and math) graduates — an increase met by qualified, well-remunerated university professors. They integrate research, experiential learning, and open distance education in their approach to training Africa's youth. Industrial transformation is another hallmark of "Amazing Africa." Cities grow greener with efficient and affordable energy. Transport and water provision systems define cities of tomorrow.

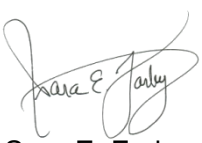
The alternative future is far less sunny. We call it “Africa on the Edge.” It is a continent teetering between security and instability. A place defined by neglect of STI fails to balance the economic, social, and technological demands that a growing population, changing climate, and increasing urbanization require.

Manifesting "Amazing Africa” is within our reach. And though it takes more than STI to realize this vision, it necessitates that we harness the power of collaborative innovation. One example, plucked from GKI’s growing roster of purpose-driven networks, illustrates how this can be achieved.

Meet Dr. Daniel Rukazambuga, Dean of the Faculty of Agriculture at the National University of Rwanda. Through a partnership between Africa’s Regional University Forum on Capacity Building in Agriculture (RUFORUM) and GKI, Daniel posed a challenge he seeks to address through partnership. Specifically, a defect called “potato taste” — thought to be caused in part by the antestia bug — threatens to deter international buyers from purchasing Rwandan coffee. Unaddressed, incidence of potato taste may roll back the post-genocide development efforts that zeroed in on rebuilding the coffee sector. Through the Global Knowledge Initiative’s Learning and Innovation Network for Knowledge and Solutions (LINK) program, GKI helps Daniel and his team locate critical resources required for scientific research, teaching, and innovation to address this coffee challenge. We then enable partners — in Rwanda and globally — to collaborate through trainings, competitions, and capacity-building initiatives. Finally, we connect Daniel’s team together with the global network of problem solvers to bring solutions to scale. This novel approach to building purpose-driven networks capable of collaborative innovation is being scaled across Africa, Asia, the US, and elsewhere by GKI, with a third call for LINK challengers underway for East and Southern Africa. Magnifying the efforts of Daniel’s team, 22 institutions — national, international, private, public, and farmer-owned — are now united toward a common goal: ridding Rwanda’s specialty coffee of this taste defect. Daniel no longer toils alone.

By fortifying researchers and entrepreneurs with a shared set of process skills in collaborative innovation, we believe we can radically accelerate the delivery of solutions. Through our work in fostering, optimizing, and sustaining knowledge networks, the world’s 7 billion solvers can deliver solutions to the world’s toughest challenges. Fueling this acceleration, we have now trained experts in 45 countries in key innovation skills.

It has been a year of growth and learning, defined by two ingredients that bode well for our continued success. First, GKI boasts a small but extraordinarily skilled and passionate staff and an Advisory Board that works tirelessly to make GKI an organization with impact. Second, GKI benefits from tremendous participation on behalf of university and professional networks across Africa, the Middle East, India, the US, and beyond who champion the cause of collaborative problem solving. We strive to catalyze their efforts and perpetuate their success. Here’s to a bountiful 2012!



Sara E. Farley
Chief Operating Officer

The mission of the Global Knowledge Initiative is to forge, optimize, and sustain knowledge partnerships between the people and institutions of higher education and research.

Catalyzing purpose-driven networks to solve shared challenges in science, technology, and innovation guides our work.

About the Global Knowledge Initiative

Our Start

The Global Knowledge Initiative (GKI) originated from the 2008 Higher Education Summit for Global Development convened by the US Secretaries of State and Education and the Administrator of the US Agency for International Development. Attended by more than 200 university presidents, heads of technology firms, and philanthropists, the Summit identified the need for a "clearinghouse for resources and information to help build knowledge partnerships that can tackle development challenges." Chairman Sam Pitroda and Advisory Board Co-Chair Nina Fedoroff, with Chief Operating Officer Sara Farley, established GKI as a response to this call.

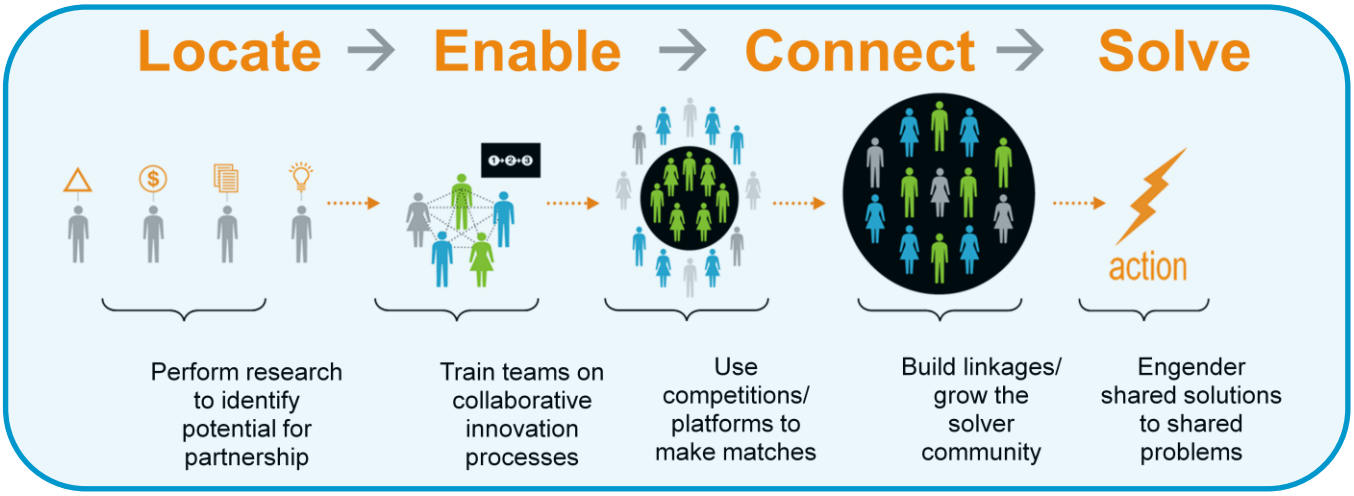
Our Process

We address developing country-based challenges pertinent to science, technology, and innovation (STI) by:

Locate — Locating and rendering accessible critical resources — technical, human, institutional, communication, knowledge-based — required for collaborative problem solving;

Enable — Enabling partners to collaborate effectively through trainings, competitions, and capacity-building initiatives; and

Connect — Connecting seekers together with the global network of problem solvers to bring solutions to scale.



Our Approach

We work with a continuum of partners. GKI takes an innovation systems approach. We engage a diverse array of actors — universities, private firms, governments, multilateral organizations, professional societies — as a means to empower people within institutions to spur systemic change.

We clarify the context for collaboration. For universities, firms, and organizations seeking to explore new partnerships in new geographies, our research and analysis equips them with an understanding of the context, community, needs, and opportunities for collaborative activity.

We frame and map the challenge space. Complex and multi-disciplinary challenges must be unpacked and framed correctly to enable action by problem solvers. GKI facilitates challenge framing and mapping to promote clear communication and foster collaboration.

We cultivate talent. GKI offers a direct connection between problem solving and capacity building. In developing countries, efforts to cultivate talent and enable lasting knowledge partnerships are vital for the emergence of the next generation of engineers, technicians, scientists, managers, and innovators.

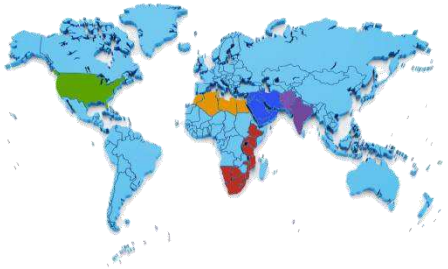
Our Focus

Not every challenge facing the world today can be addressed through science and technology, yet many can. To maintain a clear sense of purpose, we address challenges that align with these criteria:

1. The problem constitutes a **shared concern** for developing and developed country partners.
2. The problem relates to **science, technology, and innovation.**
3. Solving the problem will **improve the lives of thousands, if not millions.**
4. The problem is germane to the lives of those **people living on less than $2/day.**
5. Solving the problem **deepens capacity** for science and engineering training, research, and innovation.
6. A pre-identified **community of implementers** commits to implementing the solution within 3 years.

Our Pilot Geographies

We are demonstrating impact through pilot initiatives: two in East and Southern Africa and another in Pakistan and Afghanistan with the United States. Our global network of partnerships further supports these and other activities.



Our Work

GKI: Our Vision for Global Impact

Aligning the world's resources — technological, human, knowledge-based — to increase the speed, reach, and relevance of innovation, thereby magnifying the power of the world's 7 billion solvers

WHAT DID GKI DO IN 2011-12?

A Year in Review

The focus of GKI's second full year of operation was two-fold: (1) rolling out a suite of **Locate**, **Enable**, **Connect** programs to serve the expressed collaborative innovation needs of our partners and (2) graduating from a start-up organization to a sustainable non-profit with an eye toward the future. On both counts, Year Two was a thrilling success. Led by Chairman Sam Pitroda, Advisory Board Co-Chairs Nina Fedoroff and Ismail Serageldin, and Chief Operating Officer Sara Farley, the Global Knowledge Initiative team designed and launched our LINK program (Learning and Innovation Network for Knowledge and Solutions) in two geographies: East and Southern Africa and South Asia. Our programs for collaborative innovation training and network design enjoyed significant growth, with requests for these activities emerging from single universities, existing networks, donors, and governments alike. A few highlights from the year's achievements in each program follow.

Year Two also brought continued progress in terms of institution building. Efforts to recruit a dynamic team, identify financial support, and respond to the challenges of partners in universities, research institutions, firms, and governments continued as in Year One. As well, the Global Knowledge Initiative gained its 501(c)3 non-profit status and moved into a new space within the American Association for the Advancement of Science.

Finally, the GKI leadership team experienced a number of personal accomplishments in 2011. Sam Pitroda received the 2011 International Telecommunication Union (ITU) World Telecommunication and Information Society Award in recognition of his work with information and communication technologies (ICTs) in the promotion of humanity and sustainable development. Ismail Serageldin won the National Academy of Sciences' (NAS) most prestigious award, the Public Welfare Medal, which is awarded annually to a person who exemplifies and champions the use of science for the public good. Nina Fedoroff assumed her role as President of the American Association for the Advancement of Science (AAAS), while Advisory Board member Romain Murenzi began his tenure as the Executive Director of the Academy of Sciences for the Developing World (TWAS). Finally, Chief Operating Officer Sara Farley delivered a TED talk (accessible here: http://tinyurl.com/SaraTED) on our novel model for sparking and sustaining partnerships for collaborative innovation at the first ever TEDx at Burning Man.

250 Global requests for GKI's support

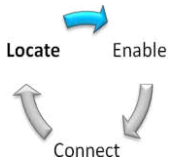
45 Countries participated in our trainings

45 Countries where we've harvested challenges

2750 Challenges we've harvested (to date!)

L O C A T E

Find resources and track needs and ideas



Program I: Needs Analysis, Research, & Evaluation

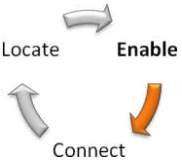
Often, STI-based development projects and programs are designed and implemented without taking into account the full breadth of factors that impact whether that investment will be successful or not. To avoid ill-designed partnerships, GKI developed four novel tools to facilitate collaborative innovation on a broad range of development challenges, implemented first with the LINK (Learning and Innovation Network for Knowledge and Solutions) Rwanda challenge team. Together, these tools compose the *LINK Analysis* that (1) clarifies the science, technology, and innovation context underpinning any STI-related development challenge (ridding Rwandan specialty coffee of potato taste, for example) to reveal determinants of possible solutions before new partnerships are forged; (2) establishes the baseline of collaboration within the national and local solver communities; and (3) catalogues what resources — technological, human, institutional, communication, and knowledge-based — current partnerships deliver and what additional resources might be identified through collaboration. *LINK Analysis: Rwanda* can be downloaded here: http://tinyurl.com/LINKAnalysisRwanda. For more information on LINK Rwanda, see page 15.

Program II: Coalition Building & Network Design

GKI fosters sustainable knowledge partnerships by scouting for optimal collaborators to help our partners address their needs. We then broker introductions between those actors to initiate resource and knowledge sharing. A recent example of this work is between Pennsylvania State University (PSU) and the Nelson Mandela Africa Institute of Science and Technology (NM-AIST) in Tanzania. After both institutions expressed interest in growing their partnerships, GKI facilitated a partnership-planning meeting between heads of PSU's Huck Institutes of the Life Sciences and the NM-AIST School of Life Science and Bioengineering. By the end of the facilitation, the concept for a Tanzanian "Living Laboratory in Eco-Health" was hatched, underpinned with a new approach to sharing faculty, constructing a dual degree, and launching a community-based challenge harvesting process. With a goal of building new enterprises in Tanzania to solve challenges at the interface of people, the environment, agriculture, wildlife, disease, and water, the partnership is poised to deliver solutions.

E N A B L E

Build human and institutional capacity



Program III: Trainings

Skill-building is a cornerstone of our work. 2011 offered many opportunities to grow our roster of graduates from GKI's Collaborative Innovation Boot Camp and various skills development programs. In one example, GKI had the opportunity to expand the reach of our trainings on essential innovation leadership skills when we won a grant with the Pennsylvania State University (PSU) to deliver the 2012 Fulbright Global Food Security Symposium. We co-designed the Symposium to provide Fulbright Fellows hailing from 45 countries the

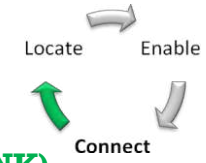
opportunity to learn about technological advances and best practices in agricultural innovation. Eighty "Fulbrighters" traveled to host university PSU for the 4-day Symposium. Between lab visits and panel discussions on "local to global food systems," GKI guided participants through a multi-day experiential learning exercise, resulting in team-based collaborative innovation solutions to challenges as diverse as delivering mobile cold storage and enhancing orphan crop research.

Program IV: Policy & Strategy

GKI's Policy and Strategy Program helps institutions set the strategic framework necessary to enable collaborative science, technology, and innovation for problem-solving at national and regional levels. With a deep understanding of the global knowledge partnership landscape and the contours of donor support for science and innovation, GKI fuses processes for participatory strategy-setting with rich insight and perspective on global practice in STI policy setting. Recognizing these attributes, recently the World Bank selected the Global Knowledge Initiative to design and facilitate a national science, technology, and innovation policy dialogue in Uganda. With the objective of catapulting Uganda's new Science and Technology Policy from a policy to action, GKI designed and facilitated an interactive stakeholder exercise that drew industry, civil society, academia, and research into a clear process for priority-setting and consensus generation.

C O N N E C T

F o s t e r l i n k a g e s b e t w e e n p e o p l e a n d r e s o u r c e s



Program V: Learning and Innovation Network for Knowledge and Solutions (LINK)

Facilitating the process of identifying challenges that, if solved, can transform the lives of thousands, if not millions, underpins GKI's flagship program, the Learning and Innovation Network for Knowledge and Solutions (LINK). LINK magnifies the power of lone solvers by forging purpose-driven networks whose members work together to implement and scale solutions. GKI's LINK program is building on the success of two previous rounds of challenge competition, hosted in Rwanda and Afghanistan-Pakistan, by initiating a third round in East and Southern Africa. Like the first LINK program hosted in East and Southern Africa, the New Partnership for African Development's (NEPAD) guiding framework for agricultural research, promotion, and capacity building — the Comprehensive Africa Agriculture Development Programme (CAADP) — defines the scope of this new LINK program. CAADP seeks to raise agricultural productivity on the continent by at least 6% per year and increase public investment in agriculture to 10% of national budgets per year. Additionally, this round also invites Requests for Engagement that build off the climate change priorities of the 2011 Johannesburg Communiqué, which calls for increased implementation of the African Union Commission-NEPAD Agriculture Climate Change Adaptation-Mitigation Framework. Please see page 15 for more on the LINK program and solutions delivered to date.

The LINK Rwanda Challenge:

How might we employ a participatory approach to understanding, monitoring, and responding to the antestia-potato taste challenge to sustain and increase the market share of Rwandan specialty coffee?

GKI's Achievement through the LINK Program:

Enabling research, industry, and academia to cross boundaries — geographic and disciplinary — and join in solving the world's toughest challenges.

WHAT DID GKI DO IN 2011-12?

Spearheaded regional exploration of prospects for STEM education harmonization in East Africa

In 2009, the East African Community (EAC) declared harmonization of secondary education curricula, standards, and evaluation a priority. Math and science offer a rational starting point for this endeavor: they are already more harmonized than more culturally dependent areas like language and history, and a broadened capacity for math and science underpins many of the region's development goals. Understanding these factors, Ministers from across the EAC met in Tanzania in September 2011 to lay a path toward harmonizing math and science education outputs and outcomes. Their goal: boosting regional labor market mobility, using science proficiency as a springboard.

"I hope these findings and recommendations will be incorporated into the EAC proceedings and the Ministers will take them up with vigor as we work to develop a harmonized curriculum for math and science."
- Shukuru Kawambwa, Honorable Minister for Education and Vocational Training, Tanzania

GKI was tapped by the World Bank to spearhead the research, analysis, and dialogue design in advance, during, and after the regional dialogue. To offer a comprehensive portrayal of the drivers bearing on math and science education, we constructed five interrelated "pillars" for analysis: (1) policy and governance, (2) curricular content, (3) teaching and learning resources, (4) teacher training, professional development, and pedagogy, and (5) evaluation of learning outcomes. A six-person GKI team visited all five EAC countries to collect data and insights per the five-pillar structure, recording over 600 pages of unique insights from more than 120 individuals from private sector, research, government, and schools. Our aim: enabling policy makers to identify and avoid roadblocks to education harmonization through knowledge sharing and strategy formation.

Our research revealed powerful drivers of change in Africa's education system. These signals point to opportunities not to just to harmonize math and science education systems, but to enhance them such that Africa's next generation realizes the continent's aspirations of transformation into a knowledge society.

WHAT DID GKI DO IN 2011-12?

Facilitated the design of a global research-to-action environmental change network

In 2011, the world's global environmental change research institutions, supported by the International Council for Science (ICSU) and the Belmont Forum (National Science Foundation et al), posed two big questions to GKI: How do you re-orient a network of institutions and individuals such that the outputs of participants are enhanced? How do you boost the relevance and responsiveness of a pre-existing network? Specifically, this group called on GKI to devise a new organizational architecture for "Future Earth" — an initiative aimed at enabling the world's global change institutions to more effectively catalyze solutions to the pressing sustainability challenges facing our planet.

"I'm surprised by how much content we got out of the process given the number of participants. That's the value of this process ... its greatest strength is bringing people together."

- Hal Mooney, Stanford University and Director, DIVERSITAS

The Global Knowledge Initiative was brought in as a network design expert and facilitator. Before our entrance, major questions loomed before the Future Earth transition team — how might we design a network that works efficiently across local, regional, and international strata, that effectively engages "users" in both knowledge generation and utilization, all while capitalizing on historic investments and engaged researchers? Using a facilitated process for creative problem solving known as SIMPLEX, GKI helped the diverse group of stakeholders migrate from several alternative and, at times, competing ideas to a collective vision of this research-to-action network. Armed with this information, the group was ready to consider an array of institutional designs that can best provide the functions and feedback loops required to solve the key Earth System challenges of today and tomorrow. While important questions regarding institutional design will arise over the course of implementation, participants' feedback hailed the process as both "tremendously successful at providing engagement and coherence among distinct voices" and "overdue."

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WHAT DID GKI DO IN 2011-12?

Forged a purpose-driven network to empower Rwanda's coffee farmers and propel agricultural development

How do you cut child malnutrition in Uganda? How do you salvage Rwanda's quality coffee sector from the scourge of an insect? How do you ensure that East African farmers grow cassava drought-resistant enough to withstand a changing climate? After hundreds of stakeholder consultations, GKI unveiled its new model for collaborative problem solving. The specifications of the model were bold: Deliver a single process simple enough to be teachable, versatile enough to handle cassava and malnutrition challenges, and affordable enough for a not-for-profit to deliver globally. We call it the Learning and Innovation Network for Knowledge and Solutions (LINK).

As the first live pilot, LINK Rwanda demonstrates the power of the *locate-enable-connect-to-solve* formula that defines the LINK process. To the delight of Rwandan smallholder farmers and global coffee buyers, LINK Round I succeeded in forging a global network of solvers who have developed and started implementing a strategy to solve a mysterious taste defect sometimes found in Rwanda's specialty coffee. The research-to-action team's strategy emerged over nine months of research, training, and analysis.

Through LINK, GKI helped researchers at the National University of Rwanda (the LINK Challengers) **locate** critical resources required for scientific research, teaching, and innovation. We then **enabled** diverse partners to collaborate through trainings and capacity building initiatives. Finally, we **connected** resource seekers together with a global network of problem solvers — 22 institutions at present — that can scale solutions to the coffee challenge. With researchers now active on three continents contributing to a collective solution, LINK's success in catalyzing action is clear. We are ramping up LINK across Africa, Asia, the US, and elsewhere, magnifying the power of lone challengers to solve global development challenges through science, technology, and innovation.

Rwanda's National Agriculture Export Board Director General Alex Kanyankole affirmed the importance of GKI's efforts through LINK: "The momentum I see, the zeal I see," he said, "gives me confidence that we are moving to achieve a very big milestone."

WHAT DID GKI DO IN 2011-12?

Facilitated a path-breaking partnership between Afghan, Pakistani, and American scientists

"It was a wonderful gathering … the way the Global Knowledge Initiative tried to ensure that it was meaningful speaks a lot about your experience with this part of the world."
- Chairman, Department of Biochemistry, Arid Agriculture University, Rawalpindi, Pakistan

Unsatisfied with the status quo of poor seed quality and low productivity, agricultural researchers from Kabul University in Afghanistan and the University of Agriculture, Faisalabad in Pakistan forged a collaboration aimed at researching new seed technologies and training rural Afghan farmers about on-farm seed technology applications and improved grain storage techniques. This partnership seeks to build the research capacity of Kabul University's Faculty of Agriculture, while spreading the benefits of that research to local populations.

The regional alliance, improbable given the geopolitical dynamics at play, emerged after GKI convened a stakeholder consultation at the Higher Education Commission of Pakistan in Islamabad in March 2011. The consultative meeting brought together respected researchers and innovators from across Afghanistan and Pakistan. Discussion zeroed in on shared regional development challenges in the key sectors of agriculture, agro-industrial enterprise development, and water. GKI invited participants to submit joint requests for engagement for the LINK program as a way to realize collective action on the shared challenges identified at the matchmaking event.

Our Technical Committee selected the joint request from Kabul University and the University of Agriculture, Faisalabad as the LINK winner. Since the partnership's formation GKI has opened doors with more than 40 institutions within the Muslim-majority countries and beyond in an effort to grow the network of allied institutions capable of supporting the implementation of the team's shared vision. With research on the context for collaborative innovation underway and plans for a regional strategic planning meeting underfoot, the LINK team now offers a vitally needed counterpoint to the geopolitical challenges that define much of the region's headlines.

GKI for TRAINING INNOVATORS

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WHAT DID GKI DO IN 2011-12?

Trained research, policy, & industry leaders from 45 countries in collaborative innovation skills

Science and technology policy. Innovation ecosystems. Challenge mapping. Strategy articulation. These words may not mean a lot for the average person, but they impact the way priorities are set, research is pursued, and business is conducted throughout the world. Once mastered, these tools offer powerful mechanisms for science, technology, and innovation-led development. For this reason, GKI launched its training program to support a diverse array of global STI stakeholders. We devised our training program with one main objective in mind: cultivating leaders equipped to nurture healthy innovation ecosystems that enable researchers, teachers, students, and entrepreneurs to solve development challenges now and in the future.

To date, GKI has trained STI professionals from 45 countries in a range of collaborative innovation skills. The courses, customized and experiential in every instance, have targeted participants as diverse as Nigeria's Director General of Research, Fulbright fellows in food security-related doctoral programs from Haiti and Sierra Leone, and representatives of Tanzania's Chamber of Commerce. Highlights from the year include a course we ran in Pakistan. There, we partnered with COMSTECH — the Ministerial Standing Committee on Scientific & Technological Cooperation of the 57-member country Organization of the Islamic Conference (OIC) — and the American Association for the Advancement of Science to deliver a custom-designed course to participants from 16 OIC countries. As well, GKI designed and facilitated a UNESCO-sponsored "Innovation Systems Management" course hosted by Tanzania's University of Dar-es-Salaam. The highly interactive, week-long course exposed approximately 40 students, whittled down from 120 applicants, to tools and concepts that will enable them to more effectively wield STI to propel national growth and development. Thrilled with the success of this initial exposure, UNESCO tapped GKI to develop a long-term collaborative innovation training program, modeled on a training-of-trainers approach, thus building the capacity of African innovators, teachers, and learners.

"A new chapter has been opened in my quest to build more skills in STI Systems Management. With this training, my government will do better in its work of promoting good practices in STI for the well-being of the nation and its people."
- Pius Mwambene, Tanzania Ministry of Livestock Development and Fisheries

Late 2010

Launched LINK Africa, following Ministerial Meeting in Uganda

Following Africa's Ministerial Meeting on Higher Education in Agriculture (CHEA), GKI convened a special session of university Deans of Agriculture with our African university network partner RUFORUM, after which LINK (Learning and Innovation Network for Knowledge and Solutions) Round I went live.

Designed and facilitated Uganda's Science, Technology, and Innovation Policy to Action Seminar

In cooperation with the World Bank and the Uganda National Council on Science and Technology, GKI trained Ugandan policymakers, researchers, and entrepreneurs in STI-based strategic planning and policy implementation, enabling the prioritization of key STI policy options and stakeholder buy-in.

2011

Selected inaugural LINK winner and six LINK Challengers

Guided by the African Union's Consolidated Africa Agriculture Development Program (CAADP) objective of increasing agricultural yields in Africa by 6%, GKI harvested challenges from East Africa's top university researchers. Six LINK Challengers won GKI "LINK Round I Challenger" designations. Dr. Daniel Rukazambuga and his team from the National University of Rwanda became the inaugural LINK winners with a coffee challenge beckoning for innovation.

GKI's Advisory Board Co-Chair assumes Presidency of AAAS

GKI's Nina Fedoroff assumed the role of President of the American Association for the Advancement of Science and convener of the world's largest open science conference — the AAAS Annual Meeting. Nina and Sara Farley hosted a Symposium at the AAAS 2012 Annual meeting, featuring LINK Rwanda as a case study in collaborative innovation.

2011 – 2012 Highlights

GKI & Fulbright

February 2012 (pictured)

Building the capacity of Fulbright fellows through an experiential collaborative innovation symposium on Food Security

Tapped by COMSTECH to deliver "Innovation Systems Leadership" in the Muslim world

Researchers, policymakers, and innovators from Egypt, Jordan, Kazakhstan, and across the Organization of the Islamic Conference (OIC) convened at the Islamabad, Pakistan COMSTECH (the OIC's Standing Committee on Scientific and Technological Cooperation) headquarters where GKI designed and delivered a customized training course aimed at spurring collaborative innovation within and beyond the countries of the OIC.

Launched LINK Round II in Afghanistan-Pakistan

After months of stakeholder engagement and planning, GKI facilitated a historic two-day matchmaking between Afghan and Pakistani agriculture, water, and climate scientists keen to explore the potential for collaborative problem-solving between their two countries. With support from Pakistan's Academy of Science, the Pakistan Higher Education Commission (HEC), and COMSTECH, the workshop rendered willing partners committed to issuing joint requests for engagement in GKI's LINK program.

Initiated partnership with Virginia Tech

With a focus on student-engagement initiatives, GKI visited Virginia Tech's campus, engaging senior faculty in a discussion on stocktaking of international engagement efforts and providing expertise in the creation of student efforts in the International Development Planning Studio.

Facilitated "From the Lab to the Field: An International Discussion of Affordable Technologies"

In partnership with hosts Pennsylvania State University (PSU), the Uganda National Council on Science and Technology, and the Uganda Management Institute, GKI forged matches between Ugandan and American entrepreneurs seeking ways to translate great ideas from the lab to the field.

Commenced planning for 2012 *Africa Collaboration Colloquium*

Seeking new ways to kick-start purpose-driven collaborations between faculty and students in the US and their counterparts in Africa, PSU elicited GKI's design team to create a novel concept for a three-part experience, balancing knowledge sharing, partnership formation, and skill building. The premier *Africa Collaboration Colloquium* explores collaborative innovation potential in Food Security and is slated for Autumn 2012.

GKI Chairman and Advisory Board Co-Chair recognized for global leadership and service

GKI Chairman Sam Pitroda received the 2011 World Telecommunication and Information Society Award from the International Telecommunication Union, celebrating his lifetime achievements. Advisory Board Co-Chair Ismail Serageldin received the US Academy of Science's prestigious Public Welfare Medal.

LINK Rwanda team catapults its collaboration potential, begins LINK Phase I research and training

GKI's LINK Rwanda team completed a kick-off meeting and training at the National University of Rwanda (NUR) focused on clarifying the context of the coffee challenge, appraising the collaboration potential of NUR, and training a host of scientists, economists, rural development specialists, and others in GKI's methodology for locating resources required for problem solving.

Empowered Rwanda's civil society leaders to forge partnerships with local universities

At the request of the National University of Rwanda's rector, GKI introduced mayors and other civil society leaders to GKI's approach for framing and tackling community-based development challenges, sparking a new era of university-civil society partnership.

Invited by UNESCO to deliver ongoing innovation skills training in Tanzania

Some 120 researchers, entrepreneurs, and policymakers across Tanzania's science and innovation community applied to participate in a one-week interactive "Innovation Systems Leadership Training Course" designed and delivered by GKI and sponsored by UNESCO.

GKI AND MUSLIM-MAJORITY COUNTRIES MARCH 2011 (PICTURED)

Promoting stability through science partnerships between research, academia, and civil society

Jump-started East Africa regional math and science education harmonization

The World Bank selected GKI to analyze five East African countries' science, technology, engineering and math (STEM) education systems with an eye toward harmonizing secondary STEM curricula. GKI's team interviewed 120 teachers, examiners, policymakers, students, and others, constructing a unique analytic framework to clarify bottlenecks to collaboration.

Facilitated construction of a Tanzanian-American partnership on "eco-health"

GKI visited the new Arusha, Tanzania-based campus of the Nelson Mandela Africa Institute of Science and Technology (NM-AIST) to spur a challenge-framing process between NM-AIST and PSU's life science leadership team. The result is a novel "eco-health partnership" replete with a Tanzanian Living Laboratory concept.

African Development Bank invites GKI to serve on Scientific Committee

The African Development Bank invited GKI's Chief Operating Officer to serve on the Scientific Advisory Committee for the First Africa Forum on Science, Technology, and Innovation.

Joining the ranks of Bill Gates, President Clinton, and Bono, GKI's Sara Farley gives a TED talk

Leaders of every stripe consider TED a vital treasure trove of captivating "ideas worth spreading." Sharing the stage with an elite group of activities, inventors, documentarians, and entrepreneurs, GKI's Sara Farley shared the story of our work in Rwanda and our unique approach to building purpose-driven network at the first ever TED Conference at Burning Man, hosted at the Stanford University-organized Playa School. You can view Sara's TED talk here: http://tinyurl.com/SaraTED.

GKI joins European movement to support youth engagement in knowledge partnerships

Joining the Board of the International Association for the Advancement of Innovative Approaches to Global Challenges (IAAI), GKI offered its methodology for solving complex challenges through collaborative innovation at an "Orienting Knowledge Systems and Inter-Generational Relations Toward Sustainable Development" conference in Austria at which a series of Rio+20 youth, knowledge, and governance initiatives were unveiled.

Designed and facilitated a 3-day STEM Education Ministerial Forum in Arusha, Tanzania
Convening government leaders, policymakers, and technical experts from the five East African Community Partner States to discuss pathways toward regional harmonization of secondary math and science education in East Africa, GKI supported the East African Community and World Bank effort aimed at realizing aspirations of enhanced labor market mobility and regional development.

GKI's insights on science education showcased at the Kyoto, Japan-hosted *STS Forum*
Organizers of the global *STS Forum* requested that GKI's Chief Operating Officer share our lessons of experience and strategies for building science, technology, engineering, and math (STEM) partnerships with the 800 luminaries in policy, governance, academia, research, and enterprise convened for the 8th annual event.

Commenced network design work for the global environmental change community
At the request of the Earth System Sustainability Initiative (ESSI) Transition Team, GKI initiated an intensive network design exercise aimed at responding to ICSU and the Belmont Forum's call to deliver "policy relevant knowledge" from the global environmental change enterprise.

A quality seed industry-focused Afghanistan-Pakistan partnership wins LINK Round II
The LINK Technical Committee selected a joint Request for Engagement from agricultural researchers at Kabul University, Afghanistan and the University of Agriculture, Faisalabad, Pakistan as the LINK Round II pilot winner.

Optimized network design options for partners in the global change alliance "Future Earth"
Together with ICSU and the Earth Systems Sustainability Initiative, GKI facilitated an intensive network design experiment in which the world's top global change researchers participated. We aim to radically augment the degree to which users, civil society, industry, and the global policy community contribute to and benefit from the global change research endeavor.

Broadened coalition of partners across Silicon Valley
GKI strengthened its roster of Silicon Valley partnerships through a series of outreach meetings with IBM, T2VC, Cisco, and others interested in supporting purpose-driven networks globally.

Early 2012

Selected by IIE's Fulbright Program to design experiential innovation Global Food Security Symposium
Fulbright Fellows from 45 countries experienced a week-long skills-building and project-design symposium designed and delivered by Pennsylvania State University and GKI.

Launched premier *LINK Analysis* and elicited partnership agreements from 22 institutions
With the release of its first LINK Analysis, GKI and its Rwandan partners grew the purpose-driven network, which is focused on ridding Rwandan coffee of potato taste, from a single institution to 22 local and global institutions united in layering resources atop a clarified context for partnership.

Co-organized the First Africa Forum on Science, Technology, and Innovation (STI)
Together with the African Development Bank, UNESCO, the Government of Kenya, and others, GKI joined 400 of Africa's leaders in STI to set a roadmap for action across the continent.

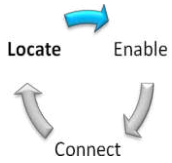
Spurred partnerships with universities, government, and donors in Kenya
Compelled by the success of GKI's efforts in Rwanda, Kenyan institutions — the Kenya Agricultural Research Institute (KARI), the Kenya National Council on Science and Technology, Kenyatta University — leaped to seize opportunities for partnership with GKI.

WHAT WILL GKI DO IN 2012-13?

The Year Ahead

Our plans for 2012-13 include expansion and delivery of our **Locate**, **Enable**, and **Connect** programs. Cultivating our pilot LINK projects and continuing to listen and respond to the people and institutions of higher education and research top the year's priorities. The following are few highlights as we look to the year ahead.

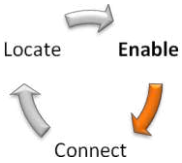
L O C A T E
Find resources and track needs and ideas



Program I: Needs Analysis, Research, & Evaluation: Our research and innovation context analysis is expanding rapidly with 2012 efforts focused on East and Southern Africa, Pakistan, Afghanistan, and the US.

Program II: Coalition Building: We have a series of strategic initiatives in Silicon Valley, India, Morocco, and Africa planned to grow the reach and impact of our efforts. Building on our previous work in network design within the global environmental change research community is another 2012 objective.

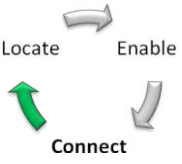
E N A B L E
Build human and institutional capacity



Program III: Trainings: Through a continuing partnership with UNESCO and the Tanzanian Government, we will design and deliver an Innovation Leadership Skills Development program to build the capacity of trainers in key entrepreneurship, innovation, and research skills.

Program IV: Policy & Strategy: USAID's call to action to formulate consortia of universities aligned to tackle development challenges inspired many universities around the world to request GKI's support. Enabling the realization of this strategic priority requires that GKI assist university stakeholders in partnering with policy and industry to move from vision to action, supporting the construction of purpose-driven networks.

C O N N E C T
Foster linkages between people and resources



Program V: Learning and Innovation Network for Knowledge and Solutions (LINK): In 2012 we place tremendous emphasis on scaling our pilot LINK program in Africa and Asia, promising a packed schedule of challenge harvesting, stakeholder alignment, partnership formation, training, and action. We eagerly anticipate the addition of new partners to our GKI team as LINK Africa and LINK Asia grow in scope.

Our Staff & Advisors

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Photo Credits: Rwandan girls; Rwandan children at play; and Afghan-Pakistani partnership pairing exercise by Sara Farley; Fulbright fellows by Brad Olson; GKI events shown on back cover by various GKI staff

GKI: Building Purpose-driven University Networks
September 2011 (pictured)

GKI brings vision and purpose to an eco-health partnership between Tanzania's NM-AIST & Penn State University

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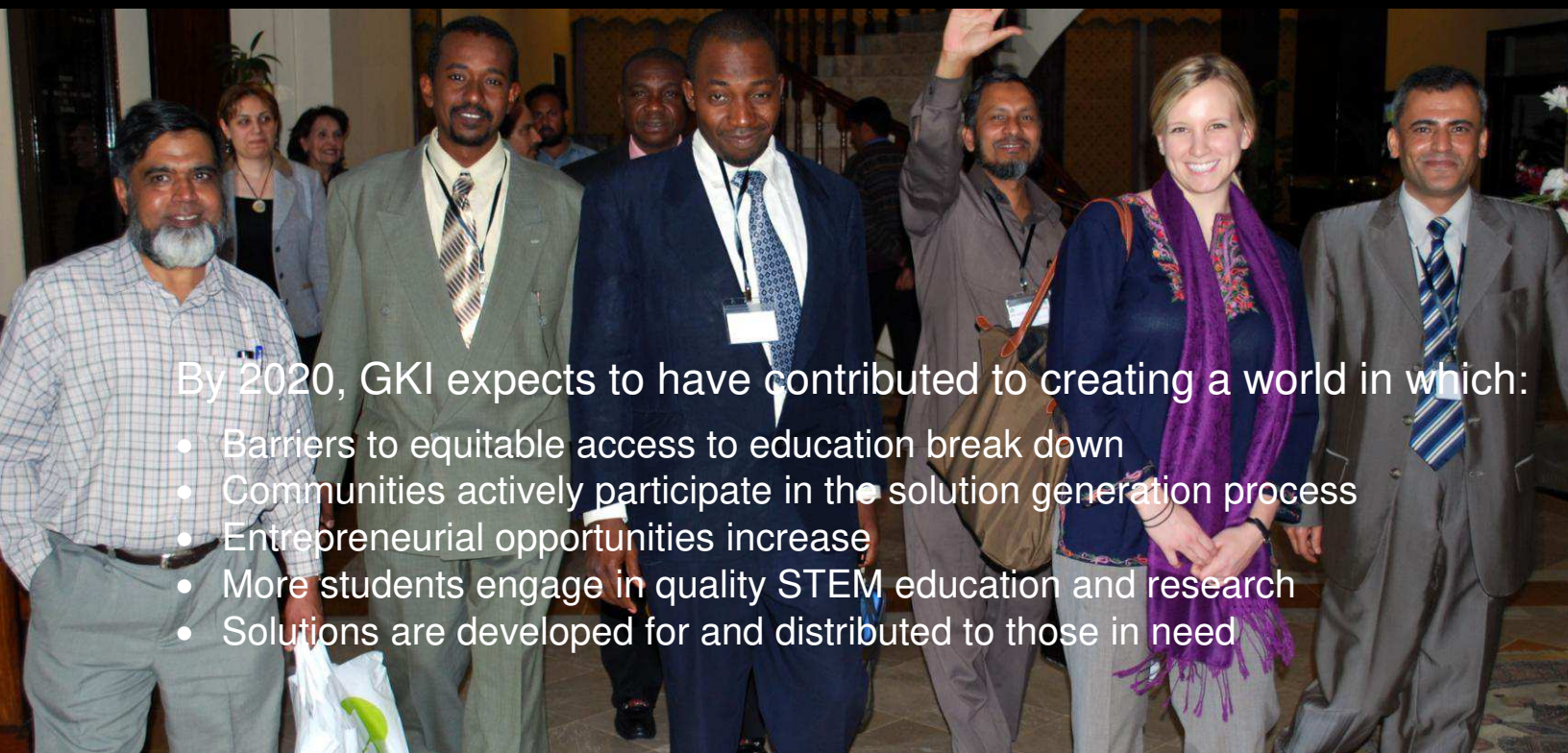
GKI Anticipated Impact – 2020







By 2020, GKI expects to have contributed to creating a world in which:

- Barriers to equitable access to education break down
- Communities actively participate in the solution generation process
- Entrepreneurial opportunities increase
- More students engage in quality STEM education and research
- Solutions are developed for and distributed to those in need