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ICT-Enabled Development Case Studies Series: Geekcorps of Ghana

Submitted by Editor on 2 September, 2004 - 22:54.

An initiative of [IICD](#) and [bridges.org](#)

The bridges.org IICD Case Study Series on ICT-Enabled Development sets out to illustrate how information and communication technology (ICT) contributes to development in Africa. The aim of this series is to help ground level initiatives imagine the possibilities of what can happen if they use ICT successfully to overcome development obstacles, and to contribute to the existing body of knowledge on the digital divide.

I. Overview

Initiative: Geekcorps Ghana matches highly skilled technology volunteers from the developed world with small and medium-sized businesses in Accra, Ghana. Volunteers spend between three to four months on-site where they help to boost private companies by transferring technology skills and helping them to grow.

Implemented by: Geekcorps International.

Funding or financial model: Not-for-profit technology volunteer corps funded by USAID until June 2003. Currently looking for other funding opportunities.

Timeframe: The project started in February 2000, and has sent five groups of volunteers to Ghana.

Local context: Ghana has a population of 19.9 million (2001). The literacy rate for people aged 15 years and over is 72.6%. However, 44.8% earns less than US\$1 a day (2001)[1]. The GDP per capita is US\$372 (2000). Power failures are common. Limited availability of, and costly ICT infrastructure is a problem for businesses in Ghana. There were 1.82 telephones per 100 people in 2001, with teledensity skewed in favour of large cities. Mobile phones are gaining in popularity. There were 102,000 mobile phone subscribers by 2000[2]. The cost of a mobile phone call was US\$0.90 per minute (peak hours) and US\$0.72 per minute (off peak) in 2001[3]. In 2001 there were 235 Internet hosts, and a computer density of 0.33[4]. Internet access is expensive overall: between US\$6 and US\$50 per month -- not including phone charges -- depending on the ISP and the type of service provided. Ghana is politically and economically stable with little corruption and danger and overall considered to be a good place to do business. Liberalisation and privatisation of the ICT and telecommunications sectors are underway. There is a small but active population of Ghanaian expatriates returning to Ghana with business knowledge from the US and Europe, which are an important part of the growing ICT business scene in Ghana.

The development problem/obstacle addressed: Ghana's small-to-medium sized businesses have a shortage of people trained in appropriate ICT skills, which is holding back economic development in this sector. The skills shortage can be traced to the universities. Until recently, students who graduated with a computer science degree in Ghana had spent minimal time actually working on a computer as part of their studies. They might have learned old-fashioned computer languages like Fortran or Cobol that are no longer needed in the marketplace, or even learned coding on paper. Often those with computer science degrees need six to 12 months training after they leave university in order to be functional using their computer skills in a job. While both the ICT curriculum and the ratio of student to computer have improved in secondary and higher education settings, the lack of high-end ICT skilled people in the job market remains a major problem.

How ICT is used to overcome the problem: Geekcorps Ghana pairs ICT-skilled volunteers from America, Europe, Australia and Argentina with small-to-medium sized businesses in or near Accra that need short-term, internal ICT training and assistance. Volunteers are selected from a large pool of applicants and must prove their interest and competence. They are provided with housing, logistical support and guidance from Geekcorps Ghana and receive a weekly stipend of US\$100. To qualify for help, Ghanaian companies have to fill in a detailed business application form in which they have to specify the skills they need from the Geekcorps volunteer and describe what they hope to gain from the experience. In return for Geekcorps' service, businesses have to undertake an ICT-related community development project (CDP), approved by Geekcorps. The CDP is designed to encourage firms to contribute to the community in which they do business. Participating businesses have to pay a goodwill deposit (ranging from US\$250 to \$2000, depending on size and history of business) to ensure that the firm complete the CDP.

Only 14 companies are selected to receive assistance each year. However, once placed at a company, a volunteer offers a dedicated service for up to four months. Volunteers work on specific ICT projects that require high-end skills. They work closely with at least two company employees to ensure an adequate transfer of skills. Their most important objective is to transfer their skills to the company they are working with. Volunteers also help community organisations that need technical assistance. In addition, they run a "Geekcorps Seminar Series" of open training sessions, through which they reach other micro-businesses and the general public. In return for their work, volunteers get an opportunity to experience life in Ghana. Anecdotal evidence suggests that the client businesses have increased their profit as a result of Geekcorps' help. In the last two years over 35 businesses in Ghana have been helped.

Next steps: Geekcorps Ghana is now building collaboration with Ghanaian universities, where volunteers would teach workshops and work as adjunct professors to augment the areas of expertise of the faculty, and target ICT skills that are directly responsive to the needs of the local job market.

Geographical area targeted: Ghana, greater Accra region.

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II. Gauging Real Impact

This section considers whether and how the Geekcorps has made a [Real Impact](#) at the ground level by looking through the lens of basic best practice guidelines for successful initiatives. The bridges.org's [7 Habits of Highly Effective ICT-Enabled Development Initiatives](#) are used here as a framework to highlight what the Geekcorps has done well.

The 7 Habits of Highly Effective ICT-for-Development Initiatives

1. *Implement and disseminate best practice.* Before starting Geekcorps, the founders studied other volunteer projects. Although the project has been replicated by Geekcorps in Mongolia, its founder, Ethan Zuckerman, is cautious about disseminating lessons at this stage. "I think it is important that we expand our base of operations not only so we can work with more businesses, but so we can start learning lessons about what works and what does not work in technology transfer in emerging nations," he said in an interview with the American television show *Livelihoods*. "We have learned a ton about technology transfer in Ghana...but it is unclear whether those lessons we have learned are Ghana-specific or whether they are applicable in other nations. I would like to get a more diverse base of experience so we can offer better guidance to the organisations that seek our help."

2. *Ensure ownership, get local buy-in, find a champion.* Geekcorps carefully selects volunteers and participating businesses to ensure they are committed to skills transfer. Companies have to submit detailed plans of how they want to use ICT within their business.

3. *Do a needs assessment.* When Geekcorps started out, the organisation tried to create a mechanism that would help steer the support it would provide. The result has been an internal document, titled the Geek Index, that uses various indicators such as those from the United Nations Development Programme's Human Development Report and figures about access to ICT and infrastructure provided by the International Telecommunication Union (ITU). Other indicators, such as Transparency International's Corruption Perceptions Index (CPI) -- that ranks countries by perceived levels of corruption among public officials -- and Freedom House's annual assessment of the state of freedom within various countries, were also consulted. The Geek Index serves as a country ranking system that is grouped by geographical region. Geekcorps uses this index in conjunction with its own knowledge gathered from assessment trips. The organisation also gauges whether there are enough funds within a specific region to support its work. In addition, it relies heavily on its contacts within a particular country to understand needs and the operating environment.

4. *Set concrete goals and take small achievable steps.* Said Zuckerman in the *Livelihood* interview: "Geekcorps is a project that has grown far bigger than I ever really thought it would. Our goals from the outset were to move fast and think globally. I think I was surprised by how fast we actually were able to move, and it has taken me a while to realize that Geekcorps is a reality, not just a possibility. One of the big lessons I have taken from this is that you cannot allow yourself to be surprised by your own success. When you try a crazy idea like Geekcorps, you need to believe that it is going to happen and be ready when it does."

5. *Critically evaluate efforts, report back to clients and supporters, and adapt as needed.* Geekcorps Ghana monitors the projects on a bi-weekly basis through reports by the volunteers, and monthly through site visits to the client companies. At the end of each project the volunteers are required to provide a final project report to be presented to the client company for reference and recommendation purposes, and to document the process of the project. The client companies are also asked to fill in an impact report that details the specific impact the project has had or expects to have on the business. Geekcorps also schedules additional follow-up impact surveys following the completion of the project to track results.

6. *Address key external challenges.* A key external challenge that the Geekcorps Ghana programme has faced is that the staff from the client businesses sometimes leave for a higher paid job after they have been trained by Geekcorps volunteers, leaving the client business without any benefit. Geekcorps volunteers now work with at least two people at the client, in case one leaves.

7. *Make it sustainable.* With respect to sustainability within the client companies, Geekcorps volunteers take specific steps to avoid becoming "irreplaceable" to the companies. They document all of their activities in the business and leave behind clear records that can be used by others after they are gone. They also train employees of the client business to ensure that someone can do the job and maintain systems once the Geekcorps volunteer leaves. With respect to the organisation's own sustainability, Geekcorps itself is entirely reliant on donor funding. However, that might change, as Zuckerman has said: "Increasingly, I am inspired by entrepreneurs who run non-profit organizations that fund themselves, or for-profit organizations that achieve social missions while turning a profit. I do not know whether Geekcorps could have been a self-sustaining business at the beginning, and I think we will work on adding revenue streams to the business now -- but I wish we had been able to build an organization less dependent on outside funding. That is something we will work on moving forward."

III. Lessons Learned

This section invited Stephanie Brennan, country director of Geekcorps Ghana, to share her views on their greatest success, the challenges they have faced, key constraints and dependencies that affect the initiative, opportunities for future improvement of what they do, and other lessons they have learned.

"Through our work with various ICT businesses and businesses utilising ICT as a significant aspect of their business, we have developed general profiles of the types of management and structure of the companies that we feel provide the best client partners and receive the greatest benefits from the projects. These are typically entrepreneurial, with visions expanding outside of the limitations of strictly Ghanaian focused IT.

We also have had good results with "cross-pollination", sharing the skills of the volunteer group among the different clients, so that there is the opportunity to "job share" if a company finds that it needs different expertise from time to time that another volunteer might be able to provide. We found this especially useful with our "networking" vs. "programming" volunteer.

In addition we have also been able to better understand the learning curve involved in the Geekcorps skills transfer process, and that there is sometimes a lag or a plateau of development due to current business responsibilities, counterpart adaptability and so on. We have found that often it is useful for volunteers to be able to also work on secondary projects or with multiple counterparts to be able to "share the wealth" of knowledge without causing burnout on one main counterpart.

We are also looking at additional ways to extend the impact of our volunteers through training, also through working through business associations as a means to provide similar training to larger groups of businesses."

IV. The Story

This section presents a narrative description of Geekcorps Ghana that highlights why this use of ICT for development is particularly interesting.

An American who went to Ghana to study percussion eventually came back drumming up support for a different cause - to give people around the world access to the Internet and the economic opportunities it provides.

So far, Ethan Zuckerman, founder of the Geekcorps, has done rather well. His Massachusetts-based NGO has established four country offices in the developing world that match high-tech volunteers with businesses requiring information and communication technology (ICT). Even if he is not quite the pied piper, Zuckerman has managed to gather a large following of geeks behind him -- at the moment there are 1,300 techies on Geekcorps' waiting list wanting to volunteer. In fact, the organisation claims that it is more difficult to get into Geekcorps than into Harvard!

In Ghana Geekcorps provides housing, logistical support and guidance to volunteers and sponsors optional cultural excursions. Descriptions about Ghana such as "sandy beaches, thick rainforests, exciting music, beautiful art and absurdly friendly people" as well as photographs of the lush countryside posted on Geekcorps' website obviously serves as a lure, however volunteers are warned beforehand that they will have to work. Each week volunteers spend 30 to 40 hours working closely with staff from Ghanaian companies, training the local businesses in the ICT-skills that are their strong suit.

High-tech volunteers with at least three to five years' experience -- including programmers, graphic designers, public relations and business consultants, database and e-commerce specialists, marketing and networking specialists, Web and GIS specialists -- are carefully chosen to suit the needs of Geekcorps' client companies.

Many development organisations that have gone to Ghana have been focusing on giving Ghanaians access to ICT and teaching them basic computing skills and what the Internet is all about. However, this type of help does not benefit the private sector that needs more sophisticated ICT skills. Although Geekcorps had plans to teach programming skills when they started out, once in the field they quickly had to revise their strategy. They found that many Ghanaian programmers knew most of the common programming languages. However, they lacked the knowledge and experience to use their programming skills to build appropriate software, which required different skills. "There is only so much you can learn with a computer science degree, and by ordering books from Amazon.com. Developers often learn best through apprenticeships, working on complex and well-defined projects with experienced team leads," said Geekcorps' Director of Programmes, Ana Maria Harkins, in an interview with the magazine Software Development.

It is exactly these types of skills that Geekcorps are now providing. The main aim of the Geekcorps volunteers are to figure out how to transfer what is in their heads to the local people's heads. They are not supposed to complete a project on their own; they have to work with a team of people to complete a project or develop new skills.

Because it costs several thousand dollars to send a volunteer abroad for four months to Ghana, Geekcorps have a rigorous selection process for both volunteers and local businesses. Geekcorps' staff in Ghana spends a lot of time getting to know the local business community and non-profit sector, and selecting locally-owned and run organisations to participate. Companies applying for help must demonstrate a clear business plan or mission, and have a good reputation and community standing. They also must have employees with fundamental skills who are in a position to learn from a Geekcorps volunteer. To create a knock-on effect, client companies are also obliged to run ICT development programmes in their local community.

When not at work, volunteers do workshops on selected ICT topics. However, even for a geek, life is not all work and no play. Volunteers have weekends to explore Ghana's lush environment. Some volunteers stay behind in Ghana after they have finished serving as volunteers and use the time to travel.

But even leisurely exposure to a country -- as has been proved in the case of Ethan Zuckerman -- has its advantages. Said Zuckerman: "Beyond fieldwork, Geekcorps is about getting geeks exposed to the rest of the world; then they become development advocates."

[1] Development Data Group, World Bank, http://www.worldbank.org/data/countrydata/ict/gha_ict.pdf

[2] International Telecommunications Union, http://www.itu.int/ITU-D/ict/statistics/at_glance/basic01.pdf

[3] See the ITU World Telecommunication Development Report: Reinventing Telecoms - World Telecommunication Indicators, 2002, pA-36.

[4] See the ITU World Telecommunication Development Report: Reinventing Telecoms - World Telecommunication Indicators, 2002, pA-66.

Author: bridges.org
Date: 21 February 2003

About the bridges.org/IICD Case Study Series on ICT-Enabled Development

This case study series on ICT-enabled development aims to disseminate best practice examples of how information communication technology has been successfully used by ground level initiatives to alleviate poverty. Case studies are an effective tool for examining what works best, what fails, and why. The intention of this series is to share knowledge and catalyse lessons learned about ICT by local organisations and the international community. The current focus is on efforts based in Africa.

The case study series is an initiative of the [International Institute for Communication and Development \(IICD\)](http://www.iicd.nl/) and [bridges.org](http://www.bridges.org/), two organisations that share the goal of encouraging the effective use of ICT in developing countries. IICD is an independent non-profit foundation, established by the Netherlands Minister for Development Cooperation in 1997 and based in The Hague. Bridges.org is an international non-governmental organisation based in Cape Town, South Africa. This initiative is supported by the Building Digital Opportunities Programme (www.icconnect-online.org), funded by the UK Department for International Development (DFID), the Directorate General International Cooperation (DGIS), the Swiss Agency for Development and Cooperation (SDC).

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