



**Exploring New Opportunities
in Tanzania and Zambia
SUMMER 2008**



Special Thanks

We thank our friends and colleagues at TechBridgeWorld and throughout Carnegie Mellon University for their support during our recent work in Africa.

We also thank our contacts in Tanzania and Zambia who helped facilitate our meetings and projects.

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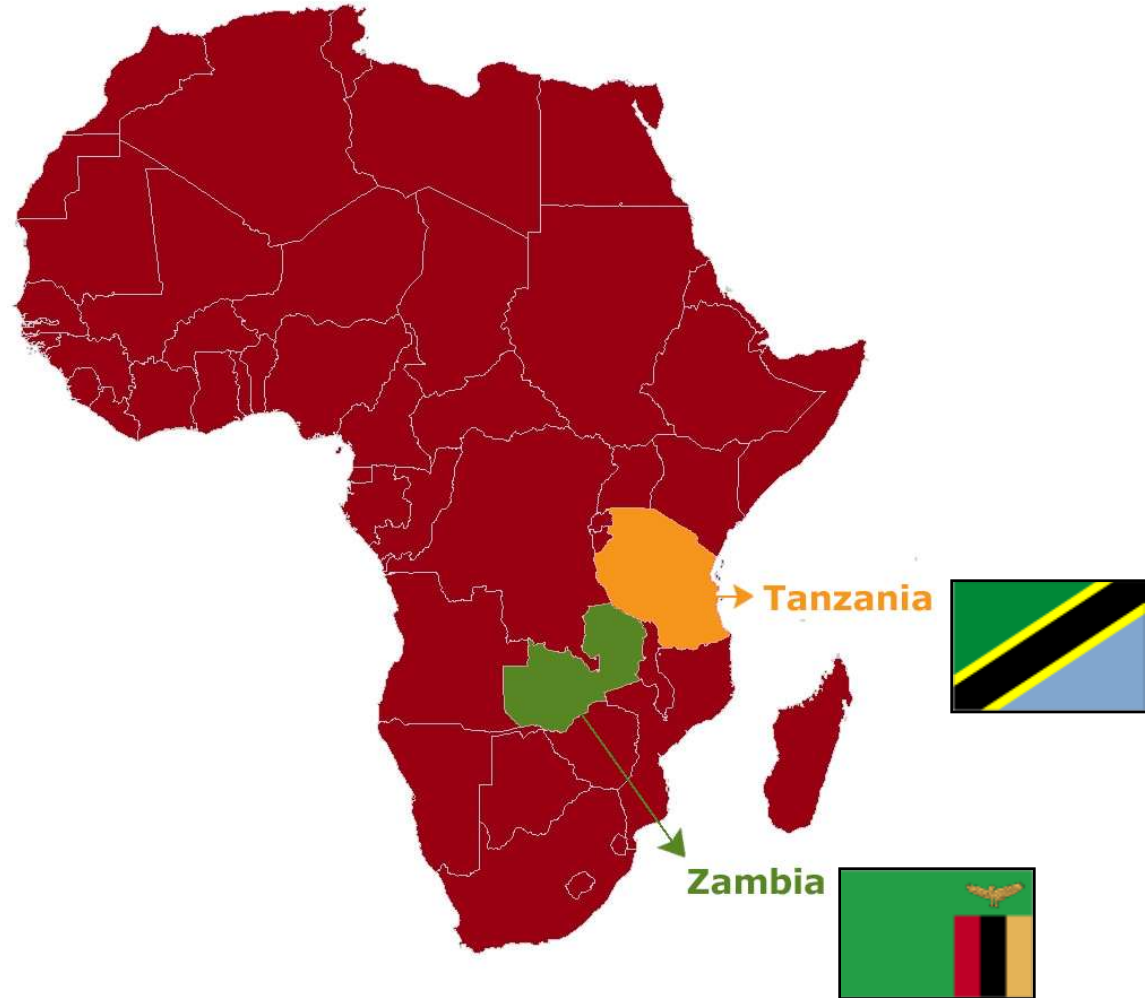
Our Goals

- ❖ Evaluate field work conditions in two diverse communities in Sub-Saharan Africa.
- ❖ Lay groundwork for new research opportunities for Carnegie Mellon students.
- ❖ Build on existing contacts in the region.
- ❖ Spend 1 week in Tanzania exploring new partnerships and 3 weeks in Zambia launching new projects with schools.

Why We Went There

- ❖ TechBridgeWorld has been actively looking to expand opportunities for Carnegie Mellon students and faculty to conduct projects in collaboration with colleagues in Sub-Saharan Africa.
- ❖ Sub-Saharan Africa has the largest proportion of people living on less than \$1 per day and yet it is one of the fastest growing regional markets for cell phones.
- ❖ There is a clear demand for innovation but in reality most people in Sub-Saharan Africa do not have access to the resources and information to be able to benefit from technological advances in their everyday lives.
- ❖ Sub-Saharan Africa has suffered from a lack of human resources and technological expertise resulting in few locally-grown initiatives related to technology and development.

Where We Went



Where We Went



Country of Tanzania:

Coastal nation in East Africa, with a population of 40.2 million

Primary languages

Swahili and English

Literacy

69.4%

Population online

0.9% (384,300 Internet users)

Number of mobile cellular telephones

6,720,000

Dar es Salaam, Tanzania:

Major city on the coast of the Indian Ocean with over 2.5 million people, formerly the country's political capital

Sources: CIA WorldFactbook and Wikipedia

Where We Went

Country of Zambia:

Landlocked nation in Southern Africa,
with a population of 11.7 million

Primary language

English

Literacy

80.6%

Population online

2.8% (334,800 Internet users)

Number of mobile cellular telephones

1,663,300

Mongu, Zambia:

Town of approximately 50,000
people in the Western Province

Lusaka, Zambia:

Country capital of over 1 million people;
our transit stop to Mongu



Sources: CIA WorldFactbook and Wikipedia

How We Did It

- ❖ Faculty member M. Bernardine Dias and staff members Sarah Belousov and Freddie Dias planned to explore new partnerships and projects in Tanzania and Zambia during late June through July 2008.
- ❖ Dr. Theresa Kaijage, recent social work Ph.D. graduate from the University of Pittsburgh and mother of 2007 Heinz School graduate Karumuna Kaijage, offered to facilitate our meetings with her contacts in Dar es Salaam. Dr. Kaijage is a faculty member in Tanzania's Institute of Social Work and is the founder of WAMATA, one of her country's first organizations working with HIV/AIDS victims and their families.
- ❖ Mbao Ngula, Founder and Executive Director of ProjectEDUCATE, a non-profit organization created in Pittsburgh to address education and development challenges in her hometown of Mongu, Zambia, collaborated with us to launch new projects with three schools in the Western Province with the approval of the district office of the Ministry of Education.

What We Did

- ❖ In Mongu, Zambia we visited three schools and discussed what technology projects would be most useful and feasible during our brief time in town. Most of the teachers and students we met had very limited experience working with computers.
- ❖ In Dar es Salaam, Tanzania we met several potential partners and discussed project ideas we plan to develop into a new summer internship program for Carnegie Mellon students.
- ❖ We faced many challenges ranging from daily power outages and long walks to schools, to limited rest and difficulty accessing technical supplies locally.
- ❖ We were also very fortunate – despite the long trip we had no lost baggage, few flight delays, and many wonderful and eager colleagues and students, all of which contributed to a very positive, educational, and rewarding experience!



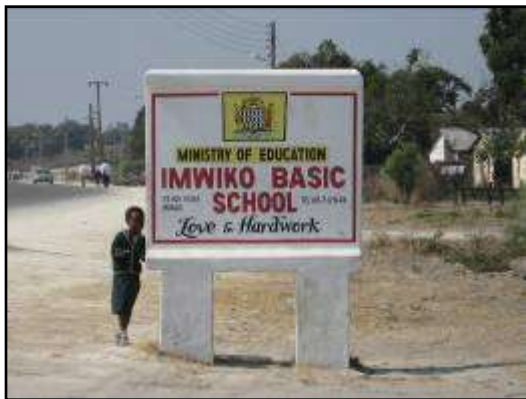
Mulambwa Basic School

- ❖ Primary school of approximately 2,100 students and 80 teachers in Mongu, Zambia that has received a donation of two dozen computers from ProjectEDUCATE.
- ❖ In collaboration with the school's headmaster and teachers we explored the feasibility of utilizing Project LISTEN's Reading Tutor, provided through a collaboration with Professor Jack Mostow. The Reading Tutor was well received. We also provided teacher training, and made plans for a feasible long-term field study.
- ❖ We developed computing curriculum guides during this trip in response to the observed lack of teaching materials on the topic of computing.



Imwiko Basic School

- ❖ Primary school of approximately 1,500 students and 30 teachers in Mongu, Zambia that has received a donation of two dozen computers from ProjectEDUCATE.
- ❖ In collaboration with the school's headmaster and teachers we introduced Project LISTEN's Reading Tutor, and again the Reading Tutor was well received.
- ❖ Upon this school's request, we provided customized computing curriculum guides we developed during the trip to address the lack of teaching materials for classroom and computer lab instruction. We decided to pursue a long-term research study of how these curriculum guides are used by their teachers and work with Imwiko to enhance these guides and provide additional materials upon their request.



Sefula School for the Visually Impaired

- ❖ This is a specialized primary school of approximately 100 students and 14 teachers located several kilometers outside of Mongu, Zambia that received a small donation of computers from ProjectEDUCATE while we were in town. Half of the teachers are visually-impaired.
- ❖ In collaboration with the school's headmaster and teachers we introduced the newest version of our braille writing tutor, which was very well received, and the teachers provided us with substantial feedback and suggestions for improvements. We have determined that a long-term research study related to their students' use of the braille tutor is feasible and we have signed a formal MOU with the school.
- ❖ Since few of the teachers had worked with computers, we introduced them to basic computer components and skills and we also provided the computing curriculum guides.



Next Steps in Mongu, Zambia

- ❖ Year-long research project on braille writing tutor with Sefula School for the Visually-Impaired to begin this fall.
- ❖ Planning during this fall to begin year-long research in January to measure use and success of computing curriculum guides at Imwiko Basic School.
- ❖ Planning during this fall to begin year-long research in January to measure the impact and effectiveness of Project LISTEN's Reading Tutor at Mulambwa Basic School. Also this fall, incorporating local stories and materials from Zambia's Ministry of Education literacy program into the Reading Tutor.
- ❖ Remote work will take place in collaboration with local ProjectEDUCATE contact, school officials, and Ministry of Education Mongu District Education Board Secretary. On-going discussions will address sustainability of these planned projects.

Next Steps in Dar es Salaam, Tanzania

- ❖ Choosing Tanzania as first location for new student internship program.
- ❖ Discussion of planned collaboration with University Computing Centre to explore the feasibility of using Project LISTEN's Reading Tutor at a school with a recent donation of computers, located at the end of the country's electrical grid.
- ❖ Further discussion of collaboration with social work contacts to create a cell phone application for para-social workers. The cell phone application would support the collection of data electronically for instant updates of national databases to improve services for AIDS orphans and vulnerable children.
- ❖ Potential collaboration with non-profit organization Operation TechStart in the Tabora region on educational technology projects for orphans and vulnerable children.

TechBridgeWorld

We are a research group at Carnegie Mellon University spanning education, research, development, deployment, and outreach. We are dedicated to defining the role of technology in sustainable global development.

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