



**Higher Education for Development (HED) and  
U.S. Agency for International Development (USAID)**

**U.S.-South Africa Collaborative Partnerships:  
Mathematics Teacher Education, Tourism, and Supply Chain  
Management/Transportation**

**FINAL REPORT  
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Higher Education for Development was established in 1992 by the six major U.S. higher education associations to engage the higher education community in global development.

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## **Executive Summary**

Between October 2008 and February 2012, Higher Education for Development (HED), a unit of the American Council on Education (ACE) in Washington, DC, managed three USAID-funded collaborative partnership programs between U.S. and South African higher education institutions. Award amounts, major activities, and outcomes over the course of the three and a half years of partnership implementation are summarized below:

- State University of New York-Buffalo/University of KwaZulu-Natal (Secondary Mathematics Teacher Education; \$225,000; 26 September 2008 – 29 February 2012)
  - Fully developed and ongoing Advanced Certificate of Education in Further Education and Training (ACE FET) in Mathematics.
  - ACE FET training of approximately 350 secondary math teachers from disadvantaged backgrounds in KwaZulu-Natal province using approximately \$600,000 in leveraged funding from the KwaZulu Natal Department of Education.
- University of Florida/Tshwane University of Technology (Tourism; \$250,000; 19 December 2008 – 31 December 2011)
  - Fully developed and approved Casino Management diploma program.
  - Fully developed Aviation Operations diploma program (approval pending).
  - Fully revised, updated, and approved Events Management diploma program.
  - Fully established and approved Center for Sustainable Tourism.
- William Davidson Institute at the University of Michigan/University of Johannesburg (Transportation and Supply Chain Management; \$250,000; 16 December 2008 – 29 February 2012)
  - Fully developed and active Masters in Commerce in Business Management (MCom) program at the University of Johannesburg to train current and future leaders in transportation and supply chain management.

All three partnerships fully accomplished their main objectives and completed activities on time under the HED program, including the submission of final narrative and financial reports. All major partnership activities were designed and implemented with the intent of increasing human and institutional capacity at the host country universities and, subsequently, benefiting the local communities and beyond in some cases. Given the already high demand for the new certificate and diploma programs developed by the partnerships and the potential broad and long-term impact the graduates can make on the development of South Africa's economy, the prospects for the sustainability of these programs seem promising. The overall goals and results of the three partnerships were strategically aligned with the goals and objectives laid out in USAID's Education Strategy 2011-2015. Without the support of USAID and the diligence and commitment of the partners, such legacies would not have been possible.

### **Overview of the U.S.-South Africa Collaborative Partnerships**

In collaboration with USAID/Southern Africa and USAID's Bureau for Economic Growth, Education and Environment, Office of Education (USAID/EEE/ED)<sup>1</sup>, HED issued a Request for Applications (RFA) in March 2008 for one partnership focusing on the topic of secondary mathematics teacher education and an RFA in August 2008 for one partnership focusing on tourism and one on transportation/supply chain management. Following a comprehensive review of the proposals by two expert peer review panels (each of which included a representative from USAID/Southern Africa) and Mission concurrence with the panels' recommendations, HED made three awards for the following partnerships and amounts:

- State University of New York-Buffalo (UB)/University of KwaZulu Natal (UKZN): Secondary Mathematics Teacher Education, \$225,000 (26 September 2008 – 29 February 2012)
- University of Florida (UF)/Tshwane University of Technology (TUT): Tourism, \$250,000 (19 December 2008 – 31 December 2011)
- University of Michigan's William Davidson Institute (WDI)/University of Johannesburg (UJ): Transportation and Supply Chain Management, \$250,000 (16 December 2008 – 29 February 2012)

The Mission had pre-selected the three South Africa institutions in preparing the RFAs. The subagreements between ACE/HED and the lead U.S. institutions were executed under an Associate Cooperative Agreement (No. EDH-A-00-08-00016-00), with an end date of 31 March 2012, as part of HED's Leader With Associates Cooperative Agreement with USAID (AEG-A-00-05-00007-00).

The overall goal of the UB/UKZN partnership was to increase the number of teachers with the knowledge and skills to teach grades 10 through 12 mathematics in the province of KwaZulu-Natal in South Africa. Its major objectives were to: (1) address educational background inequities by giving existing mathematics teachers who do not hold B.S. degrees the opportunity to receive certification; (2) develop a pilot model mathematics teacher education program to be offered through flexible delivery and low-cost technology; and (3) develop new mathematics courses and modules that focus on strengthening South African teachers' mathematics knowledge and pedagogical skills.

The overall goal of the UF/TUT partnership was to increase TUT's teaching, research, service, and faculty development capacity in tourism management. Its objectives were to: (1) upgrade the skills, knowledge, and teaching methodologies of the TUT faculty through faculty and/or lecturer exchanges; (2) develop and update the existing and new curricula; (3) provide experiential learning and practical work experience for students; (4) target and enroll more minority, disadvantaged students in tourism studies; (5) increase involvement in meetings, seminars, and programs among higher education, national and local government, and industry officials to address local, regional, and national tourism management challenges; and (6) generate networking and applied research opportunities

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<sup>1</sup> Formerly the Bureau for Economic Growth, Agriculture and Trade, Office of Education (EGAT/ED)

for faculty to increase awareness about sustainable and environmentally friendly (eco)tourism models.

The overall goal of the WDI/UJ partnership was to strengthen and expand transportation studies and training programs related to building human capacity and technical skills for the transportation sector in South Africa. Its objectives were to: (1) build the capacity of South African universities to train current and future generations of leaders in transportation and supply chain management; and (2) stimulate innovative approaches and networks for transportation and supply chain management in South Africa.

The most notable accomplishments included, by partnership:

#### UB/UKZN

- Development and delivery of an Advanced Certificate of Education in Further Education and Training (ACE FET) in Mathematics.
- ACE FET training of approximately 350 secondary math teachers in KwaZulu-Natal province from disadvantaged backgrounds using approximately \$600,000 in unexpected leveraged funding in 2010 from the KwaZulu Natal Department of Education. This number represents a ten-fold increase from the originally planned cohort size. (The of trainees varied slightly from module to module depending on the subject matter, the teacher’s personal schedules, and attrition.)

#### UF/TUT

- Fully developed and approved new Casino Management diploma program.
- Fully developed new Aviation Operations diploma program (currently pending approval from the Department of Higher Education and Training).
- Fully revised, updated, and approved Events Management diploma program.
- Fully established and approved Center for Sustainable Tourism at TUT.
- Strengthening of extant and establishment of new ties between TUT and multiple stakeholders, including the tourism industry, NGOs, and local and regional government agencies and programs.
- Completion of research on the FIFA World Cup project (\$136,000 in leveraged funding and cost sharing), resulting in 3 reports, 6 international conference papers, 2 manuscripts submitted to accredited journals, and at least 4 additional manuscripts being drafted by UF and TUT faculty. (A “spin-off” activity)
- On-going research on the Vredefort Dome World Heritage Site project (\$8,500 in leveraged funding from TUT), likely to result in 2 international conference papers and 2 publications in accredited journals. (A “spin-off” activity)
- Co-hosted with the Mbombela Municipality an “International Conference on Sustainable Tourism” in Nelspruit, South Africa, featuring the presentation of approximately 200 papers by delegates from over 30 countries. (A “spin-off” activity)

#### WDI/UJ

- Fully established and active Masters in Commerce in Business Management (MCom) program at UJ to train current and future leaders in transportation and supply chain management.
- The introduction of the case-study method by the US partners and its whole-hearted acceptance by the South Africa partners such that “it is now an integral part of the

curriculum at UJ, not only in the Supply Chain courses, but across all the courses that constitute the new MCom program.”

- Participation in exchanges to the United States by 4 undergraduate UJ students and 6 UJ faculty members.

### **Major Capacity Building Activities and Outcomes**

In accordance with USAID’s priority on increasing the capacity of local higher education institutions to contribute more effectively to local and regional development, all three South Africa-US partnerships worked to strengthen both human and institutional capacity at the host country universities for the ultimate benefit of the local community and host country. As is the case with all well-designed and effectively implemented international development projects, these university-led partnership projects appear to have made their marks by leaving behind potentially lasting and significant “legacies,” including those below, for the benefit of both the host country institutions and local communities:

#### UB/UKZN

- The new ACE FET certificate program in Mathematics holds great promise – especially with the continued financial and logistical support of the KZN Department of Education – to bolster the pedagogical and technical skills of hundreds of secondary math teachers, which will, in turn, translate into thousands of predominantly black South African youth from disadvantaged backgrounds obtaining a stronger background in math. The lack of qualified teachers is especially acute among the black African population. According to USAID, of the approximately 1,600 secondary schools in KwaZulu-Natal, approximately 300 of them are unable to provide higher levels of mathematics (grades 10-12) due to the lack of qualified teachers. Most current teachers have only a secondary school teaching diploma and lack the knowledge and materials to effectively teach upper level mathematics. USAID and other stakeholders are particularly keen on seeing more girls enrolled in higher level mathematics. It can be expected that some of these boys and girls will be inspired to pursue a career in one of the STEM (science, technology, engineering, and mathematics) fields. The welcome but unexpected contribution of \$600,000 in funding from the local Department of Education, reflecting significant South African government assumption of ownership of the program, resulted in a savings of \$24,063 of the original award amount for USAID and the U.S. taxpayer.

The table below summarizes the main human and institutional capacity building activities and outcomes of the UB/UKZN partnership:

	Activity	Outcome
<b>Human Capacity Building</b>	Developed, refined, and delivered 6 of the 8 modules for the new Advanced Certificate of Education in Further Education and Training (ACE FET) in Mathematics. <sup>2</sup>	<ul style="list-style-type: none"> <li>• The process of creating and delivering the ACE, its modules, and curriculum and assessment materials contributed to the professional development of UKZN’s faculty as well as the tutors (similar to adjunct faculty in the United States) hired by UKZN to teach the modules.</li> <li>• Twelve UKZN coordinators and 25 tutors were involved in this process (many more than originally anticipated due to the unexpected \$100,000 in additional funding from the KZN Department of Education).</li> <li>• As of early 2012, 150 of the approximately 350 teachers had completed all the ACE FET requirements and are scheduled to graduate in 2012 (8 “with distinction”). Over 75 more expected to complete their studies later in 2012 while most of the remaining teachers will likely attain certification in 2013 or 2014.</li> </ul>
	Undertook collaborative research	<ul style="list-style-type: none"> <li>• Two UKZN faculty members conducted a survey of the perceptions and expectations of the 10 UKZN coordinators and 25 tutors (“adjunct faculty”) involved in the development and delivery of the modules.</li> </ul>
	Prepared collaborative publications	<ul style="list-style-type: none"> <li>• <i>Pythagoras</i>, the journal of the Association for Mathematics Education of South Africa, accepted a manuscript for publication submitted by the partners related to their Geometry module.</li> <li>• The partners submitted a manuscript for publication to the <i>African Journal of Mathematics, Science, and Technology Education</i>. Approval is pending.</li> </ul>

<sup>2</sup> The other two modules comprising the ACE FET had minimal mathematical content, hence, involved minimal input from the partners.

	<b>Activity</b>	<b>Outcome</b>
	Jointly presented at international conferences	<ul style="list-style-type: none"> <li>Three UKZN and 2 UB faculty presented partnership activities and accomplishments at the annual meetings of the International Group for the Psychology of Mathematics Education, one in Brazil in 2010 and one in Turkey in 2011. These gatherings provided an opportunity for the UKZN faculty members to give their first-ever presentation at an international conference, thus contributing to their professional development.</li> </ul>
<b>Institutional Capacity Building</b>	Adapted/changed curricula	<ul style="list-style-type: none"> <li>The partners have developed and implemented 6 of the 8 modules which constitute the new ACE FET.</li> </ul>
	Established new academic programs	<ul style="list-style-type: none"> <li>The ACE FET in Mathematics program – the only such certification in the region – has been fully endorsed by the KZN Department of Education and approved by UKZN.</li> </ul>
	Promoted workforce development	<ul style="list-style-type: none"> <li>The 350 secondary teachers trained through this partnership program will have a very positive impact on their students with their improved knowledge of mathematics and teaching skills.</li> </ul>
	Worked with government agencies, NGO groups, and/or private sector groups	<ul style="list-style-type: none"> <li>The KZN Department of Education worked closely with the partners, providing an unexpected \$600,000 in additional funding for teacher training as well as operational support in the recruitment and selection of teachers participating in the ACE FET.</li> </ul>

### UF/TUT

The new Casino Management and Aviation Operations diploma programs represent the first of their kind in all of Africa and, according to the TUT partnership director, has “generated enormous industry and government interest in these qualifications.” The partners fully expect students from other African countries to enroll in these programs as well as in the newly revised Events Management diploma program. In light of the keen need to bolster the skills of the tourism workforce not only in South Africa, but on other parts of the continent, it would seem highly unlikely that the demand for these new programs – developed based on international standards – will fade anytime soon. In April this year, the Minister of Tourism, Marthinus van Schalkwyk, announced that, despite difficult global economic conditions, South Africa’s tourism industry managed to build on the record 15.4% growth achieved in 2010 – when South Africa hosted the World Cup - by growing a further 3.3% and attracting 8,339,354 international tourists in 2011. The newly opened Center for Sustainable Tourism at TUT – with its mission



focused on teaching, research, outreach, and extension – also holds much promise to remain a long-term fixture on campus given the emphasis the government of South Africa has placed on tourism as an engine of development and, hence, its need for academic support to better inform its decisions and policymaking. One of the key funding streams for the Center will be short/certificate courses offered to working professionals. (Approval from TUT’s higher administration is pending.)

The table below summarizes the main human and institutional capacity building activities and outcomes of the UF/TUT partnership:

	<b>Activity</b>	<b>Outcome</b>
<b>Human Capacity Building</b>	Participated in the American Society of Travel Agents exposition in Sun City, South Africa	<ul style="list-style-type: none"> <li>Both the U.S. and South Africa partners had the opportunity network extensively at the meeting for student internships and collaborative research initiatives.</li> </ul>
	Undertook collaborative research	<ul style="list-style-type: none"> <li>Using \$136,000 in leveraged funding and cost share (\$67,000 from TUT’s Office of the Vice Chancellor; \$27,000 from the city of Tshwane/Pretoria; \$7,000 from UF; and \$35,000 in cost share from UF), the partners completed the data collection and analysis for the “spin-off” 2010 World Cup research project to study the attitudes, perceptions, and experiences of international visitors and South African residents from diverse demographic groups at 9 host sites. Ten TUT faculty members, 3 UF faculty members, 3 UF PhD candidates, and 70 TUT students were involved in the fieldwork.</li> <li>One UF faculty member, 3 TUT faculty members, and 10 TUT students were involved in another “spin-off” research project at the Vredefort Dome World Heritage Site, a large meteorite impact site.</li> </ul>
	Prepared collaborative publications	<ul style="list-style-type: none"> <li>The World Cup research project resulted in 3 reports, 6 international conference papers, 2 manuscripts submitted to accredited journals, and at least 4 additional manuscripts being drafted by UF and TUT faculty.</li> </ul>

	<b>Activity</b>	<b>Outcome</b>
	Jointly presented at international conferences	<ul style="list-style-type: none"> <li>The partners delivered joint paper presentations at four international conferences. TUT covered the cost of attending the conference in Mauritius while UF covered the conferences in Canada, Cuba, and Spain.</li> </ul>
<b>Institutional Capacity Building</b>	Established new academic programs	<ul style="list-style-type: none"> <li>The partners delivered a fully developed and approved Casino Management diploma program, the first of its kind in all of Africa. TUT would ideally like to admit about 75 students into the first cohort later this year.</li> <li>The partners delivered a fully developed Aviation Operations diploma program, the first of its kind in all of Africa. Pending the program’s approval from the Department of Higher Education and Training, TUT would ideally like to admit about 75 students into the first cohort later this year.</li> <li>The partners delivered a fully revised, updated, and approved Events Management diploma program which will be implemented later this year.</li> <li>The UF partners are continuing to support TUT efforts to revise their extant programs in tourism, eco-tourism, and adventure tourism.</li> </ul>
	Promoted workforce development	<ul style="list-style-type: none"> <li>The partners continue to explore the possibility of “re-packaging” the degree programs in management currently under development as certificate programs for vocational training in the future.</li> </ul>
	Involved in community outreach	<ul style="list-style-type: none"> <li>A TUT faculty member is serving as an academic representative to the research group in South Africa’s Ministry of Tourism, thus providing another link to the local private and public sectors.</li> <li>The partners explored recruitment strategies for under-represented populations, including a visit to a rural high school in the Nelspruit</li> </ul>

	<b>Activity</b>	<b>Outcome</b>
		region.
	Informed policy at institutional, community, and/or national levels	<ul style="list-style-type: none"> <li>Conducted multiple meetings with stakeholders from the township of Soshanguve, municipality of Mbombela, city of Tshwane, Gauteng Province, and the Ministry of Tourism.</li> </ul>
	Worked with government agencies, NGO groups, and/or private sector groups	<ul style="list-style-type: none"> <li>UF continued to help TUT, a relatively new university, establish new links with multiple stakeholders in order to increase the visibility of its tourism programs. These ties have increased the opportunity for student internships and jobs as well as faculty research and consulting..</li> <li>The partner institutions are continuing to assist the city of Tshwane with a survey on tourist accommodations and the development of a newly proposed Convention and Visitors Bureau.</li> </ul>
	Promoted economic growth	<ul style="list-style-type: none"> <li>The crux of the partnership is to promote economic growth in South Africa through sustainable tourism.</li> </ul>
	Promoted environmental protection/preservation	<ul style="list-style-type: none"> <li>The partners are promoting environmentally friendly tourism.</li> </ul>
	Other	<ul style="list-style-type: none"> <li>The partners established a fully approved Center for Sustainable Tourism at TUT, which is expected to be fully operational by mid-2012.</li> <li>Continued active engagement of TUT's Nelspruit campus in partnership activities when originally only the main Pretoria campus was expected to participate, resulting in the strengthening of links between the two campuses.</li> </ul>

WDI/UJ

The new MCom program was designed to train future leaders in transportation and supply chain management for generations to come and thereby contribute to the ongoing development of South Africa’s infrastructure and economy. The program has thus far admitted two cohorts of 75 students each (from an average of about 260 applicants per year), with 12 in each cohort concentrating on Supply Chain Management. All of the students are working at least part-time at some of the most prominent supply chain management companies in South Africa such that their newly acquired knowledge and skills can have immediate application in the workforce. Many of the students’ companies are paying their tuition.

According to a survey by an independent consulting firm, the MCom program was already ranked 3<sup>rd</sup> among 20 prominent MBA and MBA-type programs in South Africa, thus attracting increasingly more applicants. In the words of the UJ partnership director: “We believe that this program will, over the years to come, make a marked difference in high caliber skills in this very important sector of the South African economy.” The case study methodology introduced by the U.S. partners, now an integral part of the MCom pedagogy, also promises to be an enduring legacy of this partnership. It has resulted in a “significant mind shift” with regard to UJ’s approach to both teaching and research, a shift which is being embraced by increasingly more faculty and students within and outside of UJ’s Department of Transport and Supply Chain Management.

The table below summarizes the main human and institutional capacity building activities and outcomes of the WDI/UJ partnership:

	<b>Activity</b>	<b>Outcome</b>
<b>Human Capacity Building</b>	Exchanged faculty and students	<ul style="list-style-type: none"> <li>• Visit to WDI and UM by 6 UJ faculty members who, among other activities, attended/observed classes, toured Ryder and Wal-Mart facilities, attended a seminar on global supply chain management, and gave Brown Bag presentations for students and faculty. (One of the faculty visits was cost shared by UJ.)</li> <li>• Visit to WDI and UM by 4 UJ undergraduates who toured various transportation and logistics facilities in the Ann Arbor area.</li> </ul>
	Delivered a career workshop	<ul style="list-style-type: none"> <li>• UJ hosted a workshop on “Transport Essentials presented by Women” to present and discuss career options available to women in transportation and logistics. Over 110 individuals attended.</li> </ul>
	Delivered a short course on Supply Chain	<ul style="list-style-type: none"> <li>• Led by a University of Michigan (UM) professor and hosted by UJ’s</li> </ul>

	<b>Activity</b>	<b>Outcome</b>
	Operations Management	Department of Transport and Supply Chain Management, the partners conducted a 3-day course in Supply Chain Operations Management as part of the new MCom program.
	Undertook collaborative research	<ul style="list-style-type: none"> <li>• During the first phase of the collaboration, the partners completed a baseline assessment on South African public and private sector interest in transportation and supply chain management-related development and research.</li> </ul>
<b>Institutional Capacity Building</b>	Established new academic programs	<ul style="list-style-type: none"> <li>• The new 4-track MCom program at UJ was officially launched in January 2011, with a first cohort of 75 students (out of approximately 260 applicants), many of whom were working for top logistics companies in South Africa.</li> </ul>
	Improved teaching/learning methods	<ul style="list-style-type: none"> <li>• A 3-day workshop at UJ in August 2010, which attracted over 150 faculty and students, government officials, and representatives from the public and private sectors, introduced the case study methodology and sparked tremendous interest among faculty and students. Case studies represent an entirely new teaching approach in South Africa. According to the UJ partnership director, they now “constitute the core of the MCom program” and are being adopted by other departments.</li> <li>• UJ’s faculty members – especially those who have participated in the exchange visits to UM – have fully bought into UM’s action-based teaching/learning techniques. This new dynamic approach has been very well received by the UJ students.</li> </ul>
	Improved financial management, service delivery, fundraising, outreach, institutional linkages to the private sector, or personnel policies	<ul style="list-style-type: none"> <li>• The partners continue to work closely with local business and industry, especially via the highly active Industrial Advisory Council (IAC), to ensure closer alignment of academic curricula and market needs.</li> <li>• Due to the ever-improving MCom program, UJ was able to increase its fees and remain competitive with other MBA/MBA-type programs in South Africa.</li> </ul>

	<b>Activity</b>	<b>Outcome</b>
	Worked with government agencies, NGO groups, and/or private sector groups	<ul style="list-style-type: none"> <li>The partners convened <i>ad hoc</i> meetings of the IAC to discuss improvements to and the sustainability of the MCom program.</li> </ul>
	Promoted economic growth	<ul style="list-style-type: none"> <li>The crux of the partnership was to contribute to South Africa’s economic growth by improving the knowledge base and skillset of the country’s transportation/supply chain workforce.</li> </ul>

### **Challenges and Opportunities**

The partners experienced a number of different challenges and opportunities over the course of project implementation. A relatively minor challenge common to all the partnerships was the weakening of the U.S. dollar relative to the South Africa Rand which compelled the partners to be a bit more frugal, but not to the extent that any of their originally planned activities were adversely impacted. A considerably more serious challenge, common to two of the partnerships (UF/TUT and WDI/UJ), was the protracted J-1 visa process through TraiNet and SEVIS, requiring much more visa processing time than originally programmed for, and ultimately resulting in the postponement of several visits to the United States by the host country partners. Other challenges, as well as opportunities – both anticipated and serendipitous – are listed below by partnership:

#### UB/UKZN

##### Challenges

- Although the partners were extremely pleased with the unexpected \$600,000 in leveraged funding (~\$100,000 for each of the 6 jointly developed modules) from the KZN Department of Education to support the training of approximately 350 secondary math teachers instead of the originally planned 30-35, this sudden dramatic increase in the scale of the training created some logistical difficulties for the partners, including the need to recruit and train additional tutors to deliver the classes and locating physical space to hold the classes. In the end, the partners were able to overcome this “good problem” and successfully deliver the new ACE FET in Mathematics program.

##### Opportunities

- Depending on how the new ACE FET program continues to progress – namely how well this certification training ultimately translates into more competent and engaged teachers and more motivated and better educated students in the classroom – the partners report that the KZN Department of Education might provide more funding to train another cohort of math teachers.
- The partners are also exploring the possibility of expanding the ACE FET in Mathematics beyond KwaZulu-Natal to other neighboring provinces and possibly even other countries. Their multi-campus, off-site, weekend-training model has proven to be a highly successful means of attracting and retaining teachers from the more rural parts of the province by sparing them the long commute to Durban. The expansion of training outside of KwaZulu-Natal would, however, be predicated on securing other sources of funding besides just the Department of Education.

## UF/TUT

### Challenges

- The greatest challenges for the partners were: (1) trying to align the new diploma programs with the new Higher Education Qualifications Framework (HEQF) and the South African Qualification Authority (SAQA); and (2) the long delay in getting the new and revised diploma programs approved by various local and national administrative bodies, including the Department of Higher Education and Training. In the words of the partners: “Internal and external bureaucracy with respect to paperwork and approval processes was a major challenge.” While the revised Events Management program and the new Casino Management program have now been fully approved, approval for the Aviation Operations program is still pending after almost a two-year wait. The partners now expect the program to be approved by August/September of 2012.
- The partners also experienced a long delay in receiving internal approval from three TUT committees and one faculty board for the new Center for Sustainable Tourism. After almost a two-year wait, the Center was approved in March 2012 and became fully operational in April 2012.
- TUT’s Department of Tourism currently does not have ample number of faculty to teach all the new courses in the newly developed programs. The partners, however, have received assurances and reassurances from TUT’s higher administrators that new faculty will soon be hired. Until that happens, some of the current Tourism faculty have expressed their willingness to teach the new programs while lecturers from other parts of the country are recruited to fill the subsequent teaching vacancies as there is a larger pool of lecturers available to teach the pre-existing courses. The partners have also identified industry experts to teach the new programs on a part-time basis.

### Opportunities

- The partners learned that the South African Air Force is keen on training a number of its personnel through the new Aviation Operations program once it has been formally approved. Upon approval, the program may provide a steady income stream for TUT to continue making upgrades to the program, tailor-making some of the content to fit the needs of the clients, as well as possibly channel some of the monies to support the activities of the new Center for Sustainable Tourism.
- The partners expect to receive accreditation for the Aviation Management program from the Aviation Accreditation Board International with assistance from Jacksonville University, a relationship facilitated by UF.
- TUT is working to establish a study abroad program with Jacksonville University and to also send one faculty member to Jacksonville for a 6-month sabbatical in 2012.

## WDI/UJ

### Challenges

- Aside from the problem of obtaining visas on a timely basis mentioned above, the partners did not report any other significant challenges. They completed all originally planned activities, as scheduled, by 31 December 2011.

### Opportunities

- This partnership project changed how students' course dissertations are assessed throughout all universities and across all subject areas in South Africa, an achievement that extended well beyond the original scope of the project. By working closely with the South Africa Council for Higher Education (CHE), UJ's assessment model will now closely resemble that of the University of Michigan's Ross School of Business which allows for action-based learning by permitting students to work collaboratively in teams across disciplines as part of the dissertation requirement. Previously, the students were only allowed to work in isolation on their dissertations, a requirement set by the CHE, the governing body of educational standards in South Africa. The partners believe that this model is likely to be adopted by numerous universities throughout South Africa.
- During a "final debrief" visit to the Mission in January 2012, USAID representatives informed the representatives from the WDI/UJ partnership and HED that they would be "very interested" in seeing government officials begin to enroll in the MCom program. Perhaps with USAID's assistance, the partners could devise an effective recruitment strategy.
- UJ has expressed interest in hosting a clinic on case study writing, based on the knowledge they acquired from their U.S. partners, which would, according to the WDI partnership director, "solidify the image of UJ being the pioneer in industry and educational institution outreach."

### **Financial Expenditure and Cost Share**

While the UB/UKZN partnership left approximately 11% of their award monies unspent (due to the unexpected additional funding from the KZN Department of Education), the other two partnerships essentially drew down on the entirety of their awards. All three partnerships met the minimum cost share requirement of 25%, with two of the partnerships far exceeding that amount (see below).

#### UB/UKZN

Through the ACE/HED subagreement end date of 29 February 2012, UB reported \$199,970.44 in expenditures out of the total award of \$224,034 (89.3%) and \$181,986.91 in cost share out of the originally anticipated \$185,634 (98.0%). This represents 82.9% in cost share relative to the award.

#### UF/TUT

Through the ACE/HED subagreement end date of 29 February 2012, UF reported \$245,853.22 in expenditures out of the total award of \$250,000 (98.3%) and \$62,500 in cost share out of the originally anticipated \$62,500 (100%). This represents 25.0% in cost share relative to the award.

#### WDI/UJ

Through the ACE/HED subagreement end date of 31 December 2011, WDI reported \$249,930 in expenditures out of the total award of \$249,930 (100%) and \$124,581.79 in cost share out of the originally anticipated \$113,899 (109.4%). This represents 49.8% in cost share relative to the award.

#### Aggregate Expenditure Figures for the 3 Partnerships

Award amount: \$723,963.81



Expenditures reported: \$695,753.47  
% of award spent: 96.1%  
Award balance: \$28,210.34  
% of award unspent: 3.9%

Aggregate Cost Share Figures for the 3 Partnerships

Anticipated cost share amount: \$362,032.46  
Cost share reported: \$369,068.70  
% of anticipated cost share: 101.9%  
Cost share balance: minus \$7,036.24  
% of cost share balance: minus 1.9%

**Final Inventory of Residual Non-Expendable Property and Equipment with a Value of more than \$5,000**

N/A

**Conclusion**

Although the funding from the Mission and EEE/ED was relatively modest, the partners feel fairly optimistic about the prospects of leveraging additional funding to expand current activities – especially given the demand for the newly developed and implemented programs – and/or venture into new ones. In the case of the UB/UKZN partnership, they have, of course, already received a sizeable infusion of monies from the provincial Department of Education, but, depending on the effectiveness of the ACE FET training, the DoE might very well provide them with another tranche to train an additional cohort of math teachers in KwaZulu-Natal.

In the case of the UF/TUT and WDI/UJ partnerships, a promising source of additional funding is the private sector owing to the importance of tourism and transportation/supply chain management, respectively, as engines of development. According to the TUT and UJ partners, although South Africa enjoys a high-demand, well-established tourism industry as well as a sophisticated transportation network of airports, railways, seaports, and highways, this strong tourism infrastructure is undermined by a largely unskilled and undereducated workforce. The development and successful implementation of the newly established programs in Casino Management, Aviation Operations, and Masters in Commerce (with a Supply Chain Management concentration) – the first and only of their kind in all of Africa – represents a singular opportunity for these institutions to be the educational, training, and outreach/extension leaders on the continent in these fields – fields deemed by the partners, the government of South Africa, and other stakeholders, to hold great promise towards bolstering the economic development of South Africa and beyond.

The case can be made that the Southern Africa Mission and the EEE/ED Bureau were actually “ahead of their time” by having anticipated USAID’s new agency-wide 2011-2015 Education Strategy linking broad-based economic growth to education. More specifically, the overall goals of these higher education partnerships proved to be tightly aligned with Goal Two of USAID’s three global education goals: “Improved ability of tertiary and workforce development programs to generate workforce skills relevant to a country’s development goals.”

With regard to the UB/UKZN partnership, the training of the 350 secondary mathematics teachers working with a predominantly marginalized black student population addressed “illustrative” Result 2.1: “Increased access to vocational/technical and tertiary education and training for underserved and disadvantaged groups.” The development and implementation of the tourism-related certificate programs, the various spin-off research projects, and the establishment of the Center [of Excellence] for Sustainable Tourism by the UF/TUT partnership conform particularly well to Result 2.2, “Improved quality of tertiary education and research in support of country development priorities,” and USAID’s aim to “improve public-private sector collaboration,” “establish centers of excellence affiliated with universities to provide services to and strengthen connection with the private sector,” and “improve faculty and staff training through joint collaborative research and teaching.” And lastly, the WDI/UJ partnership, through the formation of the MCom program with a specialization in Supply Chain Management, most directly addressed Result 2.3: “Improved relevance and quality of workforce development programs.” With the assistance of the active Industrial Advisory Council, the partners have worked in close collaboration with the private sector to “deliver employability skills relevant to market needs, establish skills standards, and develop demand-driven curricula.”

Justifiably so, all three partnerships reported in their final overall partnership progress reports to HED – and shared with USAID – that their project outcomes “exceeded expectations.” From the inception of USAID-funded activities under the HED program in late 2008 to their conclusion in late 2011/early 2012, these higher education collaborations underwent a transformation from being essentially “blind dates” between U.S. and South Africa universities to “real” partnerships involving the mutual exchange of knowledge and skills, not to mention viewpoints and cultures. All of the partnership directors on both sides of the ocean agree that the establishment over the past three and a half years of trusting and respectful professional relationships and, even more importantly, genuine friendships, proved to be vital in the successful implementation of the projects and bodes well for on-going and future potential collaborative activities between these institutions.

### **Appreciation**

Without the generous financial and technical support of USAID/Southern Africa and USAID/EEE/ED, these three exceptional higher education partnerships would obviously not have been possible. HED would like to sincerely thank USAID for the opportunity to manage, work with, and support the efforts of the dedicated teams from the six partnering U.S. and South Africa universities. .

## **Appendix A: U.S. and South Africa Partnership Directors**

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## Appendix B: Success Stories

### SUCCESS STORY

#### ***HED Partnership in South Africa Leverages Government Funding to Train Math Teachers***

*The State of New York University, Buffalo/the University of KwaZulu-Natal*



Charlie Koo

Mathematics teachers enrolled in the teacher certification modules at the UKZN campus site.

In the South African state of KwaZulu-Natal, there is a dire shortage of teachers qualified to teach higher level mathematics, especially in rural areas. Most of the teachers have only a secondary school teaching diploma and lack the content knowledge to teach mathematics in grades 10 through 12. Of the 1,600 secondary schools in the state, 300 are unable to offer higher levels of math education due to a lack of qualified teachers.

In the fall of 2008, Higher Education for Development, with funding from the United States Agency for International Development (USAID), awarded \$224,034 to the [University of Buffalo \(UB\), State University of New York for a three-year partnership with the University of KwaZulu-Natal \(UKZN\)](#) to develop a low-cost, flexible delivery pilot mathematics teacher education program to strengthen the knowledge and pedagogical skills of black South African secondary school teachers. The overall goal of the partnership was to increase the number of black teachers with the knowledge and skills to teach mathematics in grades 10 through 12.

Less than a year into the initiative, the partners succeeded in developing six out of eight modules for the new Advanced Certificate of Education for Further Education and Training in Mathematics. Given the relatively modest size of the award, the partners initially expected to train approximately 30 teachers.

From the onset, UKZN partners have kept KwaZulu-Natal's Department of Education (KZN DOE) regularly informed of activities and accomplishments. In March 2009, two representatives from DOE attended the first series of meetings between UB and UKZN in Durban and interacted with key personnel. During a site visit to UKZN in August 2010, HED team members learned that *DOE had contributed approximately \$300,000 toward partnership efforts – exponentially increasing the number of teachers to be trained from 30 to 400!*

Partners believe the generous DOE funding was a result of a combination of factors coming together. According to Dr.



Students gather outside a rural school in the KwaZulu-Natal province.

Vimolan Mudaly, the UKZN principal investigator, the KZN DOE had considered the possibility of implementing a relatively large-scale mathematics teacher training program for some time, but for various reasons was unable to initiate it. Additionally, DOE recognized the urgency of the situation in mathematics education in South Africa in general, so when the partners realized that their budget may not have been sufficient to cover the tuition and fees for the original 30 teachers, they simply asked the KZN DOE if it might be able to assist financially. Due to the high quality partnership-developed mathematics training modules and regular communiqués with the provincial DOE from the UKZN partners, DOE agreed to help as long as the partners were willing to train a larger cohort of teachers.

As it stands, the current cohort of teachers has the potential to impact thousands of South African secondary students every year. Moreover, the partners feel it is highly likely the KZN DOE will continue to provide resources for future cohorts, based on the success of the current education modules and positive feedback from DOE. While the unexpected infusion of additional financial resources has been welcomed by the partners, the expanded scope of the project has also increased the workload, primarily in terms of recruiting, training, and overseeing ‘tutors’ to train the additional hundreds of teachers. The partners, however, unequivocally agree that this is “a wonderful problem to have.” Dr. Deborah Moore-Russo, the UB principal investigator, believes the partnership has been a catalyst in building strong synergies between the collaborating universities.



## SUCCESS STORY

### South African Students Gain Insight into Logistics Industry

*William Davidson Institute, University of Michigan/University of Johannesburg*



Photo: WDI/UJ

From left: Refiloe "Fifi" Moloi and Francois Van der Walt visit the Anheuser Busch Brewery in Columbus, Ohio. The two University of Johannesburg's Department of Transport and Supply Chain Management students participated in a two-week study tour in the United States.

Logistics, a crucial sector of global business and economy, currently consumes approximately 15 percent of South Africa's gross domestic product (GDP). This percentage is considered too high in comparison to South Africa's trading partners. For example, logistics costs the United States nine percent of its GDP. In addition, logistics and supply chain management have been identified as scarce skills in South Africa, especially at the higher levels in both education and training. A Higher Education for Development-managed and United States Agency for International Development-funded partnership between the William Davidson Institute at the University of Michigan (UM) and the University of Johannesburg (UJ) is currently addressing this very issue through the development of a new Master of Commerce degree program at UJ.

In March, 2010, two Logistics Management honors students from UJ's Department of Transport and Supply Chain Management visited UM's Ross School of Business, the William Davidson Institute and UM's Transportation Research Institute for a two-week tour. The tour immersed the students in both academic and real-world experiences of logistics management processes and supply chain operations. This tour is typically reserved for WDI students due to the high value they place on their relationships with the private firms partaking in the tour. Khalid Al-Naif, partnership director at WDI, stated that "because of the high level and quality of the students that were sent, we were able to treat them as we treat our own." The two students were chosen after a large applicant pool was shortlisted to 10 applicants and evaluated on academic ability, capacity for further development, motivation and participation.

*"I am truly delighted to have realized from my trip that America has many development programs for Africa and has not forgotten about our beautiful continent and its development needs. I am truly thankful to have been involved in one myself."*

*-- Francois Van der Walt, University of Johannesburg*

During the first week of the tour, the students attended supply chain and business management courses at the Ross School of Business. One of the students, Francois Van der Walt, noted "The classes were a great opportunity to experience both the differences and similarities in study approaches, between those of UJ and those of UM. The classes also gave us the opportunity to meet other students.... One thing that struck me was that most classes had some practical element to them in the form of demonstrative games or guest lecturers." During the second week, the students visited the facilities of three major U.S. companies and observed the supply chain and logistic management process in real time. They toured the Anheuser-Busch Inc brewery in Columbus, Ohio; Con-Way Freight's corporate headquarters in Ann Arbor, Michigan; and, the Ford Rouge Plant in Dearborn, Michigan, where the F-150 truck is produced. Francois said that visiting the