

Saturday, July 14, 2007

## Built to last

### UI engineering students work to finance and construct a bridge in Andes

By Rob Daniel  
Iowa City Press-Citizen

Two isolated villages high in the Andes Mountains of Peru are connected again, thanks to the work of five University of Iowa civil engineering students.

The students -- May 2007 graduates Avery Bang, Jenna Kusmirek and Tara Olds, and seniors Irund "Sergio" A-wan and Ryan Wallace -- played a major role in the financing and construction of a modern bridge of reinforced cables and wooden planks. The new bridge replaced an old Incan walkway of braided sticks between the villages of Yavina and Ccollpa, about 10 hours by truck and foot from the capital city of Lima. Two years earlier, the bridge had been responsible for the deaths of two children from a nearby Quechua village.

The UI students' involvement in the project began in spring 2006, as the seniors sought out summer internships. Olds originally had pursued an internship with Bridges to Prosperity in Yorktown, Va., before the students decided to partner with the group for their senior engineering design project.

"We saw this (project) coming and we wanted to go above and beyond," said Wallace, 22, a senior from West Des Moines. "A lot of times nothing ever happens. We wanted to do something that would last."

After settling on working in Peru over other locales, such as Ethiopia, the students went to work on raising the \$18,000 needed for the project and designing the bridge. They spent their Thanksgiving break visiting Yavina, speaking with residents and surveying the land. They also worked on securing some of the funding from local officials as well as non-government organizations Ayuda en Acción and Centro Andino de Educación y Promoción, or Andes Center of Education and Promotion, in Peru.

"They wanted to know what we were about," Wallace said. "With them, we strategized on how we wanted to approach this. It was interesting because when we signed the contract, a majority of the money was coming from us."

Dealing with the altitude also was an issue for the students. Yavina is about 13,000 feet above sea level, more than 12,000 feet above Iowa City. The two-hour hike to Yavina from the town of

Chillhuane, where they had traveled to by truck, included stretches that were 15,000 feet above sea level.

The people also made an impression on the students. Yavina is small, centered around the equivalent of an elementary school with a small store as its main business. Olds, a Bettendorf native who graduated in May, said the teachers in Yavina who helped with logistics treated the UI group well.

"Everyone in the community made it their responsibility to feed us," said Olds, 22. "The teachers always reminded us how much the bridge meant to them."

Many of the younger children and elders of the village spoke the native language of Quechua rather than Spanish. However, workers and officials spoke Spanish, as did A-wan.

"He was able to translate everything for us," Olds said. "It was a worry of ours that something would be lost in the translation. But we never really missed anything."

Yavina's isolation also affected the students' efforts. Located more than eight hours from the nearest large city, Cusco, they worked without many of the tools they would have had on a similar project in the United States.

"We had a tape measure and some string," Wallace said. "It tested our rudimentary engineering skills."

Back home in Iowa, the students worked on fundraising, posting a 10-minute video about the project on YouTube. They also had to design the actual bridge, working to keep it simple, in metric terms, using local materials.

"We avoided anything that was too complex," Wallace said.

After finishing the construction of the bridge in June, the students reflected on what they had accomplished. They hope to continue the legacy of helping out overseas, Wallace said.

The UI College of Engineering is establishing a relationship with a university in Cusco to one day exchange students in all fields, Wallace said. He said the students had formed strong relationships with the local residents, who called them "saviors" and "heroes."

"It was extremely humbling," Wallace said. "We're just some kids from Iowa."

Reach Rob Daniel at 339-7360 or [rdaniel@press-citizen.com](mailto:rdaniel@press-citizen.com).