Adobe and AIDS
Student Creates Safe Haven for Kenyan Orphans

BY SUSAN MCDONALD

Sometimes it takes a student to raise a village. In this case, David Lambert spent more than a year with his hands in the mud, creating adobe bricks to build new villages for children orphaned by the AIDS epidemic in Kenya.

The architectural engineering senior is trying different concoctions of dirt and other materials to develop a special type of adobe brick that is strong and weather-resistant. He’s also intent on creating a product that costs virtually nothing – one that Kenyans can make themselves.

“You can take the dirt from under their feet and the bamboo that grows in their country like weeds and build with it,” Lambert said. “I think the ability to build their own homes – their own villages – gives them power.”

At Cal Poly, Lambert is building walls with the prototype adobe bricks, testing the strength of the walls by hitting them with a sledgehammer.

Testing is vital, Lambert explained, because the walls must be able to withstand the blows of a nine-pound hammer – the tool of choice for intruders intent on entering locked homes and medical facilities.

Intruders don’t simply knock down doors, Lambert said, but bash down entire walls. Lambert is experimenting with different adobe mixes to find the one that best meets the hammer test.

There is urgency to his efforts. The villagers he is helping are orphans whose parents died from AIDS or are themselves infected with HIV or the AIDS virus.

The disease has devastated millions in Kenya and other African nations. Of the worldwide total of 16 million AIDS-orphaned children, 15 million live in Africa. By 2020, the number of African orphans is expected to jump to 35 million.

Lambert is working with Nyumbani, an organization dedicated to improving the lives of the orphans by providing safe villages for them to live in. Nyumbani, which means “home” in Swahili, was founded in 1992 to house and educate children who were turned away from orphanages and schools because of their contact with the AIDS virus.

In response, the Kenyan government set aside eight 1,000-acre parcels – one parcel in each of its eight provinces – for new villages that will each sustain 600 to 800 orphans, elderly adults and caregivers. Each village is to have 100 houses, a school, medical center, meeting hall, police station and land for raising animals and growing crops.

In a country where wealth is measured by the number of cattle or goats a person owns, and the annual family income averages $300, sustainability is vital, according to architectural engineering Professor Craig Baltimore.

Steel and other conventional building materials are not an option. A bag of cement that costs $3 here can cost $40 there. Everything is much more expensive, he said.

Lambert hopes to go to Kenya this summer to help the villages take shape, meet the people who will live in them, and pass on what he has learned from Cal Poly. For now, his efforts to create the perfect adobe brick are very satisfying.

“This is an incredible experience. I feel like I’m leaving a mark.”

For more information about the Adobe Project and to help support it, please contact Cal Poly’s College of Architecture and Environmental Design at (805) 756-1311 or caed@calpoly.edu, or the Architectural Engineering Department, (805) 756-1314, arce@calpoly.edu.