

1st Quarter 2006 Article

SEEKING PROSPERITY

The charity *Bridges to Prosperity* has just launched its first programme in South America; building community bridges in Peru. *Helena Russell reports*



Preparing to set the sag on the cables (Richard James Photography)

The Romans may be considered the champion bridge builders of history, but the legacy of the Inca people in South America is just as significant. The secret of the Inca empire lay in its bridges; hundreds of suspended bridges were necessary to connect the 10,000 mile network of stone roads. These bridges had stone abutments and anchors on each side of the canyon, and they were suspended from massive cables of woven Ichu, a grass with hemp-like qualities. There were two top cables acting as guardrails, and two bottom cables that supported an integrated wooden deck of braided branches. Ironically, the fact that the bridges were strong enough to support the Spanish Conquistadors on their horses, actually hastened the fall of the empire.

One important factor in the strength and reliability of the bridges was that cables were replaced regularly by local villagers as part of their public service obligation. In some instances, the local population had the sole task of maintaining and repairing these bridges to enable the road systems to continue functioning.

Some of the most impressive of the Inca bridges are in the Apurimac Canyon, north of the Inca capital Cuzco. These bridges are up to 70m long and 36m above the river level. Now the charity Bridges to Prosperity is hoping to revive these bridge building skills among the local people, with the launch of its new programme in Peru.

The charity has already operated a very successful community bridge building programme in Ethiopia (Bd&e issue no 38) and has now expanded its mission to include Peru. The country's history of bridge building was fundamental to it being selected, explains founder Ken Frantz.

"There are more than 50 countries that we have identified as being able to benefit from our programme, so where we went next was really a matter of throwing darts on a map of the world!" he says. "However, from our experience in Nepal and Ethiopia, we learned that people with a history of bridge building are much more likely to embrace our programme. Certainly that made Peru an ideal candidate," Frantz explains.

Bridges to Prosperity director of operations Zoe Keone has been in Lima since August last year and is working with partners such as humanitarian charity Care, and government ministries Foncodes and Sencico to start up the programme. As with Ethiopia, the goal will be to construct between five and eight community-built bridges to demonstrate the programme. During the initial two year start-up period, Peruvians will be trained to operate the programme on their own. This training includes the teaching of community social skills, governance, design, fabrication of components, quality control, accounting, logistics, construction supervision, masonry skills and maintenance. The challenge is likely to be very different to that in Ethiopia, says Keone. "Peru is at the higher end of the developing curve and as such, has more infrastructure knowledge and capability. There is tremendous poverty here, but not on the scale of what we experienced in Ethiopia.

"Everyone I have spoken with is extremely excited about our community bridge building methodology, and the suspended bridge designs we teach. As in Ethiopia, the need here is huge. I could spend my whole life here building bridges, and hardly scratch the surface - so it is better that I teach them how to do it for themselves."

Founder Ken Frantz explains that the approach Bridges to Prosperity takes is one which has evolved over the charity's five-year lifetime, and one which he believes is best suited to get the results he wants.

When Frantz first started his charity to build bridges for remote villages in developing countries, he was trying to organise the construction from his base in the USA - the idea of building a bridge in the US and shipping it to the site to be erected. He soon realised

that this process could only be done effectively from inside the country where the bridge was to be located.

"What good would it be doing if the fabrication and engineering were still being carried out in the USA?" he says. "You can't really get to the roots of poverty by doing one bridge at a time - the people living there have to be able to do it by themselves." Africa alone needs some 100,000 footbridges - Frantz realised that if he could train people to build their own bridges, he could make a difference to the lives of millions. And at the same time as he had this realisation, he wondered if there were other organisations doing the same sort of work. Indeed he found a number of them - from the Swiss charity Helvetas working in Nepal (Bd&e issue no 35) to the East West Foundation in Vietnam, and engineer Toni Ruttiman, then working in Ecuador and Mexico. The charity's two fieldworkers - director of operations Zoe Keone Pacciani and director of engineering and construction Chris Rollins went to Kathmandu to spend six months training with Helvetas to see how the charity was implementing its programme. This training covered all aspects of the work - from the practical challenges of sourcing material and building the bridge - to the social and cultural aspects of implementing such projects. The latter was certainly the most challenging aspect, says Frantz.

He describes the Helvetas programme as a highly successful long term approach, requiring substantial financial resources. They have been in Nepal for more than 40 years, and helped saturate the country with bridge building capacity. Their efforts there have won them many international awards. Bridges to Prosperity prefers to take what Frantz calls a 'Wild West' approach, which he believes gives the charity a good chance to have an impact even with its limited funding.

"We sprinkle seeds here and there - they won't always grow, but they stand a pretty good chance of survival," he says. After identifying a target country, the charity plans a two year programme of building bridges with local engineers, communities and road organisations in the country. The plan involves hiring one or two local people who are trained so that when the two year programme is up, they can take over the operations in the country. In addition to this, the charity works in training programmes with local universities and so on, to educate young engineers in the process.

Once the charity withdraws from a country, it provides 'tail-funding' for three years, to give the programme the best chance of survival. The whole philosophy, says Frantz, is to try and create a sustainable industry for the construction, maintenance and repair of these bridges, so that it will eventually be able to survive without either foreign funding or technical assistance.

This approach has been successful in Ethiopia; since the charity withdrew, Helvetas has absorbed the work into its own programme, with Bridges to Prosperity still providing some tail-funding. The two year programme finished in July last year, but several new bridges are already under construction by the remaining local staff.

The training conducted in Nepal by Helvetas has resulted in the construction of more than 2000 bridges by now - and Frantz believes that if funding were withdrawn totally, the private and public industry that the work has created, including fabrication shops, university programmes, federal/state/local road trained engineers and social support would clearly survive.

The Bridges to Prosperity programme of two years' direct input followed by three years' tail funding is not set in stone - Frantz admits that the approach is still very much a process of iteration. "It may be that in five years' time we have settled on some happy medium - we may find that it works better to have four years' direct input followed by a year of tail funding, for example," he explains.

One important principle, explains Frantz, is that the whole of the two-year funding must be in place before a programme can start. The first thing that happens is that Keone will visit the target country looking for organisations with which Bridges to Prosperity can form partnerships - rather than identifying specific sites at which bridges need to be built. These can be local road agencies, or non-governmental organisations or charities which already have a presence in the country. With partnerships established, the team looks for locations on which to focus their programme - for example by finding places where multiple bridges can be built, or perhaps where the local communities are known to be particularly receptive to new ideas. "We want to create a critical mass," says Frantz, "and then we use that province as a launching pad to move out across the country."

Frantz's membership of the Rotary club and the financial support his charity gets from the organisation is the backbone of the funding arrangements. Donations from a core of Rotary clubs are matched by Rotary International, and this funding is used to buy the lion's share of the materials needed for each project. The structure of the Rotary grants requires that money from this source be used solely for buying specific items, rather than for supporting ongoing training or covering administration costs.

The material cost of building a bridge in Ethiopia was between US\$5000 to US\$10,000 per bridge - that has increased by 50% for the charity's new programme in Peru, given the huge hike in steel and cable prices. Each two-year programme costs a total of around US\$230,000, with tail-funding of US\$25,000 per year for three years. Funds for the balance come from individual private and corporate donors and an annual wine auction held in Williamsburg, Virginia. No government grants have yet been used. And since home base operations are run entirely by volunteers, all funds that are raised go directly overseas. Franz calls the organisation 'lean and mean'.

For the construction of each bridge, Bridges to Prosperity sets up a bridge user group in the local community - usually based on the existing leadership group or council - to guide the process, take the necessary decisions, and take ownership of the structure. This group must involve women, the charity stipulates.

All labour for the construction of the bridge is paid - the charity has a firm belief that workers should be paid, rather than voluntary - this not only provides local employment,

it also empowers individuals. But payment for labour costs comes from the local village council, or the rural roads authority. Bridges to Prosperity only pays the salaries of its staff, the local engineer, and the stone masons who train village masons.

Working with a local partner is very important for the charity - rather than setting up an official registered organisation in the target country and then becoming bogged down with bureaucracy and red tape. The network of Rotary clubs worldwide has proved very effective in this regard, says Frantz, and enables his charity to 'go under the radar' and work more productively, avoiding government entanglements and corruption, he says.

With Peru underway, Bridges to Prosperity is now performing feasibility studies in Honduras, Nicaragua, Bolivia, and Angola. Frantz says that the charity aims to start a new country programme every year and a half.

But this is not all that Bridges to Prosperity is doing; it has just initiated a university course that offers engineering students the opportunity to intern or work on bridge sites overseas. It has also started a programme where their foreign trained engineers can intern in the USA with local design/build bridge firms. And, through the leadership of Eric Kuhn, of access specialist Alpin Technik in Germany, the charity has launched a corporate programme to match up engineering companies and their employees to individual crossings that present particular challenges (see box).

More than anything else, Franz says, his organisation needs volunteers from anywhere in the world, willing to commit three or four hours a week to help grow the mission. "We can put just about anyone, with any skill to work," he says. And of course they need money as well as donated materials such as cable and steel. Contact www.bridgestoprosperity.org for details.

Making a difference

Alpin Technik managing director Eric Kuhn visited Peru last month (January) to survey the area and put together the team needed to tackle a crossing in the isolated Amazon village of Tres Unidos in northern Peru. The villagers need access to land on the other side of the river in order to cultivate new crops as an alternative to cocoa. They have tried to build a crossing themselves, says Kuhn, but have neither the knowledge nor the materials - for example, one attempt resulted in a bridge with the main cables made out of barbed wire.

Without a bridge, the villagers currently wade across the river to work on the other side, but water levels can rise from 500mm up to 3m, Kuhn says, and the lack of a bridge also means that children working in the fields cannot easily cross back to the village for their schooling, hence they tend to miss classes.

Kuhn's plan is to organise construction of a 65m span, with only domestic materials and using technology that the villagers can understand. This will make it easier for them to maintain the bridge, and also to rebuild it in the future. His company will raise the funds

to buy the materials, and provide the expertise, but the local people will be expected to do the work.

Alpin Technik is planning to approach some of its clients and customers in the next few months to try and raise funds for the project - and just as important, as Kuhn explains, is to ensure that all of Alpin's staff are behind the venture. Another trip to the site in May or June will enable detailed planning to take place, and the bridge is planned to be complete by the end of this year.