

Ruanda 2010 Trip Report

By Richard Komp

This is my third trip to Rwanda to work with the genocide survivors. On this trip I had to spend very little time training the group on how to build PV modules. They picked right up as soon as we got the pallet of 9000 Evergreen Solar cells out of customs at the Kigali airport and transported to Gisenyi where the Rugerero Survivors' Village is located. The story of how we got the boxes of cells out of customs without paying any bribes at all is a long one but we not only succeeded, we managed to get the customs' duty lowered from the original \$900 quote to \$178.

We (the 10 genocide survivors who remain active in this project, and myself) created a legal company called Radiant Energy and registered it with the Rwandan government. Olivier Biararo, Emmanuel Ndahimana (a Rwandan government minister) and I are the Board of Directors and major stockholders. The company has 9 regular employees getting paid 1500 Rwandan Francs (about \$2.65) per day for 17 weeks ending at the end of July. Olivier is the general manager so he gets paid more: 2000 Francs (\$3.50) per day. After the 17 weeks, the Radiant Energy company has to be bringing in enough business to pay everybody, hopefully more than \$2.65 per day.

Using 9000 PV cells shipped to Rwanda, the group has assembled 45 more PV modules to completely finish the modules needed to wire the Rugerero Village with solar lights. They also have all the compact fluorescent lamps needed, as well as most of the other parts and materials to finish that job. We worked out a subcontract with the local orphanage for them to make the wooden frames for the village solar PV systems, but are using aluminum extrusions from Kigali for the commercial 60 watt PV modules. What is still missing are the storage batteries needed to install all the systems.



Sliding a finished 60 watt PV module into one of the frames made by the orphans. The new wooden frame design developed by one of the genocide survivors (who is an excellent carpenter) is stronger but easier to make than the design we were using.

Radiant Energy is raising the money for the village systems' batteries (as well as to pay themselves a better salary) by manufacturing and selling small solar lighting kits for about \$500 each, and has already sold and installed several. They have discovered a cottage inverter. Each of the ten members of the company is a stockholder and is in charge of a particular aspect of the running of the company. Some are in charge of production steps, others sales and others things like inventory control. They are getting lessons from Emmanuel on good business practices, which are as important as good technology.



We also had short classes on such things as cutting glass so the group can be self reliant.

Radiant Energy is even starting to export PV systems to the Congo since Goma (the city run by the warlords) is right next door from Gisenyi and there is a big market for off-grid electric power there, since the warlords don't take very good care of the utility grid. There are a number of other possible money making solar projects in the works so we expect to have all 100 Rugerero villagers to have PV lighting installed and operating by the end of this year; and expect that Radiant Energy will be paying all its bills and making a profit by then. While I was there, we built one solar water heater using materials we found in Gisenyi and aluminum printing plates from a newspaper in Kigali; but I don't expect the group to do any more work on the solar water heaters for the guest houses and small hotels until I return to teach them more about how to install the water heaters. Since tourists are showing up in the area to visit with the Silverback Gorillas, the hotels will be needing hot water coming out of the showers.

My main job right now is getting more kits of the liquid silicone to Rwanda and I have already sent two new (and not very expensive) soldering stations to a PO Box in Kigali as a test of the proposed shipping method (the small glass cutting tools I sent to Jean Bosco in Gisenyi never got to him, so Jean and I don't trust that shipping route anymore). If this works, I will send the expensive, \$300+ kits one at a time to keep production going on the PV modules.

Please feel free to use whatever you wish of this report. Just remember to always include credit for the article and photos which are mine.