ponents in each subsystem to simplify use and maintenance.

Once in Dissin, the team worked with local experts – two local electricians, a plumber, a hardware store owner, the nuns and priests of a Catholic parish that housed them and the three nurses that staff the health center – to install the health center’s water filtration system. The final system consists of two pumps that transport water from the clinic’s well through a slow-sand filter to a distribution tank on the roof of the clinic. The pumps are powered by batteries charged by solar panels, which also provide power for lighting at night. During construction, they focused on ensuring system longevity by training the community members to maintain the machinery and by purchasing their materials from a local hardware store so that broken parts could easily be fixed or replaced.

The team faced several unexpected challenges unique to working abroad. “Supplies you could easily find at your local hardware store here could take days to obtain there,” Kinchen said. Near the end of the project, “We had the wonderful experience of wiring everything together, flicking the switch, and the pump definitively not roaring to life,” Conway said. The team eventually identified the DC to AC inverters as the source of the problem, and ordered three models of new inverters, which had to be bussed in from the capital. Luckily, the team had contingency time that allowed them to complete the project before departing despite these setbacks.

From this project, they made invaluable partners in construction who can help on later projects. They learned that they should seek local expertise earlier, as their PVC welding had to be patched multiple times by the local plumber since the team did not know that Burkina Faso glue was much more potent than pipe glue in the US. They also learned to have flexible schedules, as “it’s not necessarily having everything step-by-step; it’s having a plan to base off when you get there,” said Kinchen. In later years, EWB plans to return to Dissin to examine and repair old projects. There is still much left to accomplish in Burkina Faso, but for a clinic in the small town of Dissin, babies can be delivered at night under lamplight, and doctors performing surgery can wash their hands with clean running water.

“EWB’s goal was to provide a sustainable solution... by building a solar-powered water pump and filter.”