

Good Enough for Your Family, or Only for Theirs?

Life-Changing Benefits

Solar pumps provide farmers with life-changing benefits. They reduce the likelihood of failed harvests, improve productivity, reduce hunger, and create positive economic outcomes for families and communities. Irrigating crops using mechanical irrigation (solar-powered pumps) means higher yields, more land under cultivation, and reduced labor associated with watering—all very positive outcomes.

Mass Deployment

Given these clear benefits, many programs aim to increase the availability of solar pumps through donations, grants, PAYGo financing, and development initiatives. However, most of these mass deployment programs focus heavily on the initial costs, often overlooking performance, quality, and longevity. Another crucial consideration is the safety of these products.

Higher Risk Environments

Introducing new mechanical and electrical products to a community brings new risks. Beneficiaries may not be familiar with the technology or have experience with similar products. Unfamiliar users, inquisitive children, and animals may not recognize electrical risks or the dangers of moving parts. Introducing new technology without mitigating these risks by meeting international standards is irresponsible.

Real Risks ?

Some believe that the poorest people face so many risks that adding another is insignificant—this is known as “risk augmentation.” However, adding unnecessary extra risks is simply reckless. This thinking is insulting, is it acceptable for someone's home to burn down just because it's made from old pallet wood? Is it okay for a child to get injured by an unguarded pump belt because they also have access to a machete? Of course not, but these discussions happen.

Real-World Examples

In the field, many electrical and safety installations would never pass international safety standards. This is evident in every street or hotel. Many solar pumping products used in development programs would never meet electrical or mechanical safety standards for consumer products in the US or Europe. Examples include:

- Plugs or terminals with fully accessible live pins
- Open rotating equipment that can injure hands
- Open belts, wheels, or shafts posing strangulation or entanglement risks
- Batteries without adequate protection

All these risks are mitigated through basic safety standards certification.

Why Standards Exist

International bodies like IEC, EN, and UL have developed safety standards over many years. These standards are continually enhanced based on real-life risks to minimize danger to users, children, animals, and property. While technical standards may sometimes seem excessive, they are designed to protect consumers, especially the most vulnerable.

A pump running unattended on a farm needs to provide the best protections to be safe.

Which standards are relevant?

Specifically for safety the following standards are critical

- Safety of control equipment - IEC 62109-2:2011 / EN 62109-2:2011
- Safety of pumps - IEC 60335-2-41:2012
- Safety requirements for pumps - UL 778:2016 R6.21

More information is available at https://partnernet.lorentz.de/files/does-certification-matter_en.pdf.

The Big Question

Why would we actively support the introduction of technology that does not meet the safety and performance standards of our own country? There are products available that are fully certified to international standards. They are safe for you, your children, your pets, and your property. These products might have a small price premium, but they offer known quality, performance, and safety benefits.

When providing products to the most vulnerable people, international standards certification is often not a high priority for donors and program designers. How can governments, development organizations, NGOs, charities, and foundations fund the deployment of products that are not certified to international safety and performance standards? If there were no choice and the benefits outweighed the risks, then maybe. But when there are certified products available, there is no justification.

The question for us all is: why would we support sending products to vulnerable communities that we would not allow in our own homes? Is our assessment of "safe enough" or "good enough" an excuse, or should we uphold the same standards we live by?