LEBÔNÊ DIRT-POWERED BATTERY

CHALLENGE

500 million people in Africa live without power.

How does it work: Ordinary soil contains large number of microorganisms. A subset of them have been show to produce small amounts of electricity during the course of normal metabolism of organic material. We have developed a microbial fuel cell, or dirt-powered battery, based on this principle in order to provide small amounts of power to off-grid areas of rural Africa. The level of power is suitable to power LED lights, and to charge cell phones.

Designers:	Lebônê XYZ…
Manufacturers:	Lebônê XYZ…
Contributors:	Aviva Presser Aiden, David Sengeh Stephen Lwendo, Alexander Fabry Hugo Van Vuuren
Sector:	Energy
When:	2007-present
Where:	Tanzania & Namibia
Cost:	$10 USD
Status:	Beta product to be released Fall 2010
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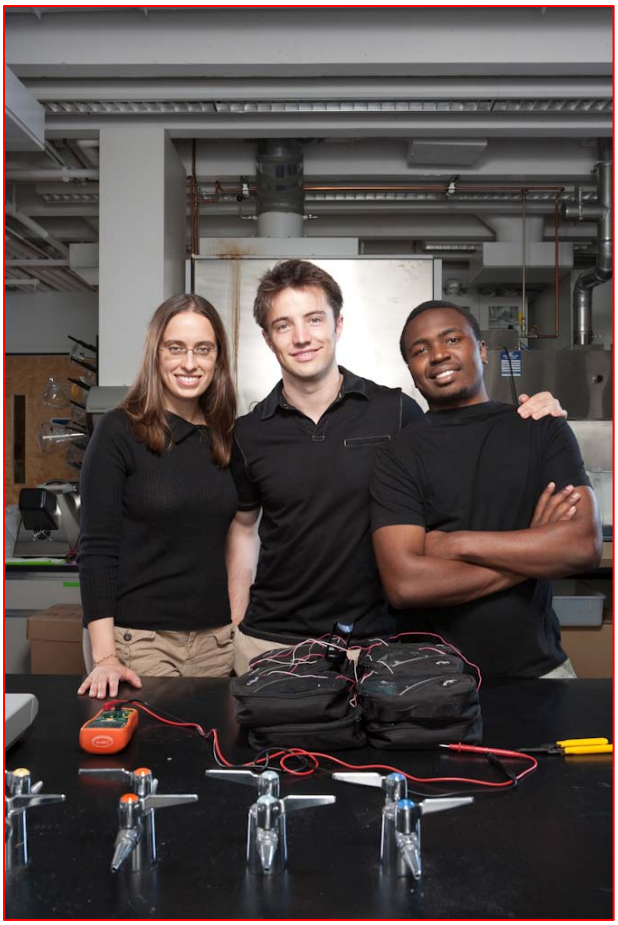

Our Story: Our team met in a class at Harvard as a group of students either from Africa or with a strong connection to the continent. Our goal was to find a novel way to address part of the continent's persistent power problem.

We found that microorganisms living in soil can produce small amounts of power. We thought this would be an exceptionally suitable source of power, as culturally, it is usual for rural African farmers to acquire their resources from the soil. We developed a dirt-powered battery based on this principle using materials that are inexpensive and readily available in sub-Saharan Africa. We ran several pilots of the technology in Tanzania and in Namibia.

For the next stage, we collaborated with XYZ… Design, a South African design company to create a next-generation prototype, which we tested in Namibia this year. We plan to have this version of the device on the market in a Buy One Give One (BOGO) model by Thanksgiving this year.