



PHOTO: SOLAR AID / MALCOLM WYGMORE

Tanzania Country Report 2014

SolarAid report of SunnyMoney activity in Tanzania



Welcome from Tanzania

As the Operations Directors for SunnyMoney in Tanzania we are extremely proud of our team, who have sold nearly half a million solar lights in the last two years. This means that clean, safe solar light is now benefitting almost three million people; brightening homes in every corner of the country.



In Tanzania we work with both primary and secondary schools to distribute solar lights. Teachers are inspired to work with SunnyMoney because they see the impact the lights have on their students. It is incredibly rewarding to know that over 15,000 teachers have attended our Solar Seminars, and in turn have introduced solar lighting to countless millions of students whose education can now benefit from the extended study time the light brings. Not to mention the improved wealth and health of their family who no-longer rely on kerosene to see at night.

It is our goal to make that a reality for every single household in Tanzania, by making solar products affordable and available across the country. Thank you for your interest in how SolarAid and SunnyMoney are doing just that.

MARY BATTERMAN & MALGORZATA WOJEWODKA
JOINT OPERATIONS DIRECTORS

SunnyMoney is a social enterprise wholly owned by international development charity SolarAid. We are part of an innovative charitable model that takes a business based approach to tackling poverty and climate change. Any surplus revenue generated by SunnyMoney is reinvested back into the charity to support our goal: the eradication of the kerosene lamp from Africa by 2020. Tanzania is one of the five countries that we were working in during 2013. Read more about the model on page 4.



Tanzania: at a glance



CAPITAL CITY:	Dodoma
CURRENCY:	Tanzanian Shillings
LANGUAGE:	Swahili, English
POPULATION:	47.78 million
GDP:	\$28.24 billion
MAIN EXPORTS	Gold, coffee, cotton, tobacco
PEOPLE LIVING IN POVERTY:	28.2% of the population

The energy problem

Across Tanzania 85% of households do not have access to electricity.

Without electricity families must either spend hours in the dark or use dangerous, expensive alternatives for lighting such as kerosene.

Without light, opportunities for earning, learning and socialising are severely limited. The productive day is cut short so that children cannot study, parents cannot work and families have little time together. When darkness falls millions depend on costly, polluting light sources to light their homes, schools and businesses. This dependency locks people into a cycle of poverty; draining their income, damaging their health and causing fatal burns and fires. Burning fuels like kerosene also releases carbon dioxide and black carbon into the atmosphere, which is extremely bad for the environment.

“Energy is the thread that connects economic growth, increased social equity and sustainability. But, widespread energy poverty still condemns billions to darkness, ill health and missed opportunities for education and prosperity.”

– UN SECRETARY GENERAL BAN KI-MOON

85% OF HOUSEHOLDS DON'T HAVE ACCESS TO ELECTRICITY

RURAL TANZANIAN HOUSEHOLDS SPEND AROUND 25% OF THEIR INCOME ON LIGHTING.

77% OF HOUSEHOLDS RELY ON KEROSENE TO LIGHT THEIR HOME.

What SunnyMoney does

SunnyMoney is building a sustainable market in Tanzania through the sale and distribution of pico-solar lights.



In 2013 SunnyMoney worked with education authorities in all but two regions of Tanzania. By hosting Solar Seminars for teachers in partnership with the schools network, the teams raise awareness of solar lights to respected leaders within rural communities across the country. These teachers return to their schools as solar ambassadors and in this way rural families learn about, and are encouraged to invest in, their own solar light.

Once field teams have moved to a new region, our SunnyMoney call-centre maintains a strong relationship with schools so that solar lights can continue to be delivered throughout the year.

SunnyMoney then encourages local school leavers or entrepreneurs to begin selling solar lights; recruiting agents using a Business in a Box initiative that enables local people to benefit from the business opportunity of the growing market. This is an area of work we intend to grow in 2014 so that solar lights become permanently available for purchase in rural Tanzanian communities.

PHOTO: SOLARAID

Our model

“SunnyMoney has cracked the code on the distribution side of solar lanterns in East Africa”

– DR. WIEBER BOER, CEO OF TONY ELUMELU FOUNDATION

SunnyMoney is part of an innovative charitable model based on trade not aid; a social enterprise founded by international development charity SolarAid in 2008.



TEACHERS COLLECTING SOLAR LIGHTS FOR STUDENTS

SolarAid and SunnyMoney believe that sustainable development is vital to achieving our shared goal of eradicating the kerosene lamp from Africa by 2020. Rather than give solar lights away, SunnyMoney was established to sell them at a full but fair retail price in rural African communities. This creates markets for pico-solar lights in these remote areas where low volumes mean that their sale is currently challenging. Charitable funding from SolarAid enables SunnyMoney to undertake the expensive and difficult task of building trust in, and access to, solar lights in areas with little infrastructure and poor retail networks. We know that when a thriving market takes shape, other players will enter the market, ensuring better supply, reduced prices and more availability to all.

This business-based approach not only gets solar lights to people quickly but provides jobs and business opportunities. We know that for some it is a struggle to find money to invest in a light so SunnyMoney is also working on financing initiatives, such as pay-as-you go technologies, to make the products more accessible.

SunnyMoney’s field teams visit an area and raise awareness of solar lights by working with schools. Teams are able to deliver lights efficiently through this trusted network and support local agents to stock solar products as local demand grows. This community-based model means that SunnyMoney supports the growth of a sustainable solar market. As a social enterprise wholly owned by SolarAid, all of SunnyMoney’s income is reinvested back into the charity’s work. Donations are therefore recycled time and time again, giving more people access to clean and safe solar technology.



TEACHERS COLLECTING THEIR SAMPLE SOLAR LIGHTS

“Charity money has only one life but if you transform it into social business money, then it becomes a life of eternity.”

– MUHAMMED YUNUS,
2006 NOBEL PEACE PRIZE WINNER

“When my daughter was using the kerosene lantern for studying at night, the following day she was always feeling pain inside her eyes, there is not that problem anymore because of using solar light,”
Teddy Shirima, Kilimanjaro

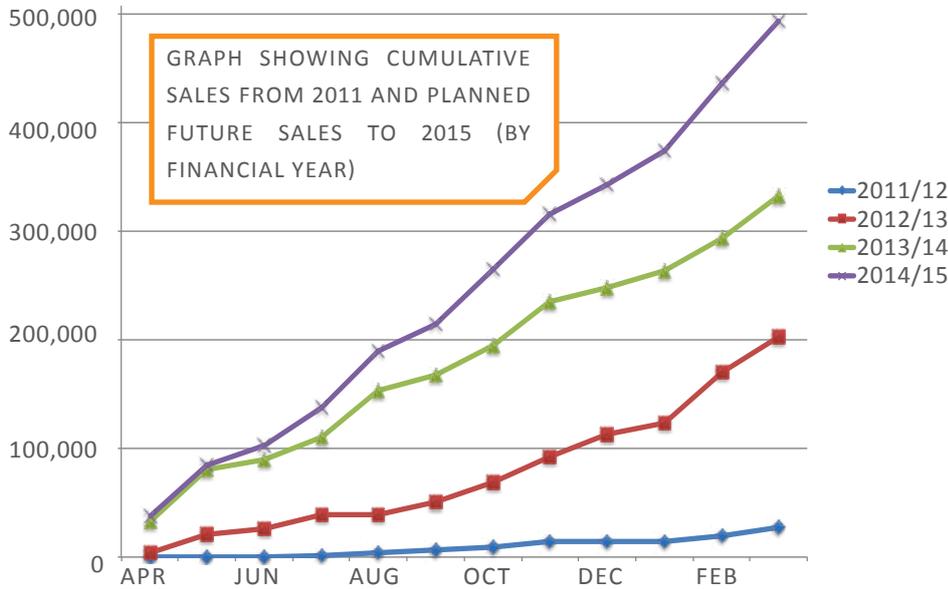
SunnyMoney sales

Tanzania sales figures have been growing exponentially since 2011.

In 2011 SunnyMoney had sold 15,300 solar lights in Tanzania. Last year they sold nearly double that figure every month and at the end of 2013 over 480,000 solar lights had been distributed in total. That means over 2.9 million people are benefitting from safe, clean light. By the end of 2014 the teams will have visited every region in Tanzania.



93% OF SUNNYMONEY CUSTOMERS IN TANZANIA LIVE BELOW THE POVERTY LINE



The solar lights

We are a product-neutral distributor of solar lights.

We sell a range of lights, all rigorously tested and World Bank approved, which are designed to meet the lighting needs of people living with limited access to electricity. They are durable, reliable, tested to meet a five year life span and all come with a warranty. We work with our customers to ensure they are getting what they want from the lights, feeding this back to manufacturers to drive improved standards.

The *d.light S2* is our biggest seller and most popular light. A study lamp giving out four hours of bright light, it provides a focused beam making it ideal for studying or working.



The *SunKing Pro* from *Greenlight Planet* has three brightness settings and lasts up to 30 hours. With a display screen showing the hours of light available, and phone charging capacity, it is especially popular with teachers and business owners.

The *d.light S300* has four brightness settings, providing up to 16 hours of bright light (100 hours on the bed light setting). It has a USB output that can charge mobile phones.



To see more lights sold in Tanzania, visit www.sunnymoney.org

The impact in Tanzania

Solar lights have a tremendous impact on the income, education and health of families in Africa. Our monitoring, evaluation and research provides evidence of the impact that our work has in Tanzania.

2013: The big picture

- **338,000 SOLAR LIGHTS SOLD**

- **2 MILLION PEOPLE** HAVE ACCESS TO SAFE, CLEAN AND BRIGHT LIGHT

- **980,000 PEOPLE** EXPERIENCING BETTER HEALTH THANKS TO REDUCING USE OF AIR-POLLUTING KEROSENE LAMPS

- **\$85 MILLION** SAVED FOR FAMILIES FROM REDUCING SPENDING ON LIGHTING ALTERNATIVES LIKE KEROSENE, CANDLES AND BATTERIES*

- **650 MILLION HOURS** EXTRA STUDY TIME FOR CHILDREN USING THE SOLAR LIGHTS FOR HOMEWORK*

- **160,500 TONNES** OF CARBON DIOXIDE EMISSIONS AVERTED DUE TO REDUCED KEROSENE LAMP USE*

*IN TOTAL, OVER THE LIFETIME OF THE SOLAR LIGHTS

Solar light users we have interviewed predominantly use kerosene lamps as their main source of lighting prior to solar light purchase.

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After a solar light purchase, an average family displaces the regular use of **half a kerosene lamp**. This means that over the lifetime of a solar light, up to **500kg of carbon dioxide** emissions are averted.
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Much closer to home, reducing kerosene light use also means less indoor air pollution. Nearly half of our customers report **improved health** after buying a solar light, including a reduction in respiratory illnesses, coughing, eye irritation and chest problems.
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Because we distribute our solar lights through the school network (find out more about that on page 4), 75% of customers tell us that they use their solar lights for their children to study. This means that children are doing an **extra one hour of homework each day**, after dark.
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100% of Head teachers we've talked to say that there is a difference in students with solar lights; notably there is an **improvement in attendance, motivation, concentration and/or performance** at school as a result of this.
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Because families are reducing their expenditure on other lighting products, this is **saving them over \$50 a year**, on average. That's 10% of household income; a significant amount. The top most common uses of savings are **food, school fees and investment** in farming inputs or business; this shows how a solar light can start a virtuous cycle of development and progress.
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Families talk of **improved security and safety** due to this brighter, more reliable lighting. Families also have the opportunity to have improved social interaction and **family time** without fear of running out of kerosene or batteries for lighting.

Our research work

SolarAid have a dedicated department that conducts research and impact measurement.

This department was set up in September 2012 and since then has conducted over 12,500 research interactions – that means observations, interviews and surveys. We interview members of the public and conduct market studies to understand existing behaviours of household lighting and spending, as well as awareness and opinion on pico-solar lights. We talk with solar light users to find out any change the lights have brought. We also work with external research partners to verify our own work and ask bigger questions around the effectiveness of what we do *and* the effectiveness of pico-solar lights as a tool for development.

Our research results allow us to continually learn and improve the way we work; adapting our programmes to ensure we reach the most people possible. It also allows us to advise on policy, make recommendations to governments and fully explain the impact a pico-solar light can have for families in Tanzania.



TANZANIA RESEARCH TEAM

External research

A monitoring report conducted by **Route 67** on SolarAid’s work in partnership with TWaweza in Tanzania in 2013 found that a solar light positively affects study behaviour of students. There was seen to be a positive change in the following variables:

- ✓ Study more often at night
- ✓ Concentrate well when doing homework
- ✓ Complete their homework
- ✓ Enjoy doing their homework
- ✓ Eyes hurt less often during homework

“Kerosene was expensive for me so I did not allow [my daughter] to study at night but now she is free to study any time [with the solar light].”
 Honoratha Elipidi, Kilimanjaro

The relationship between the solar light and the study behaviour is found significant on all five variables. 99% of the students in the study used the solar light for learning activities. And 91% of the students were the main user of the light. The solar light was seen to give students control over one of the main challenges to education, at home: no electricity or money for kerosene. Kerosene restricts the amount of time that a student could study because of fuel consumption (cost), dim light and smoke produced.

If you have any questions about our research work, please contact our Director of Research & Impact Kat Harrison on kat.harrison@solar-aid.org.

Meet a solar customer

Grace Kyondo bought a solar light from SunnyMoney.

Grace bought a *d.light S2* from SunnyMoney during the Schools campaign at her local school. Six months later Grace told us how the solar light has helped her to save money, have a cleaner home and give her children more time to study.

Grace has three children and she lives in the Iringa region of Tanzania. The family used to rely on kerosene to light the home and spent \$85 on lighting each year. Now, Grace spends the savings on better food and school fees for her children. Grace told our research team:

“[The solar light] has helped me to cut in half the cost [of kerosene] since I was spending 12,000 per month [~\$7.30]... It helps me to expand my food budget and some savings are injected into other family necessities. The smell has also reduced and I have twice stronger light than kerosene.”

As well as the smell, the reduced smoke in the home will allow Grace’s children to grow up with healthier lungs. Not only that, the light is helping her children to make the most of their education.

“I’m using [the solar light] for lighting my home, reading, cooking and for evening study... [My children] can read up to three hours to four hours as we have better and long lasting lights.”

Grace has recommended the solar lights to her friends. It is the growing trust in the technology that customers like Grace can give, that is helping the solar market in Tanzania to grow.

“This light has given me all I need and I am pleased to have it as it helps me to function well. It is still functioning well; they are really amazing lights!”

Meet a teacher

Mr Mwenga, a teacher at Ukumbi Primary School in Tanzania, attended a meeting at a local school in his district where he met the SunnyMoney team and was told about the benefits of solar lighting. Mr Mwenga was given a solar light to take back to his school and demonstrate to other teachers, students and community members.



After seeing the solar light, some of the parents of children at Mr Mwenga’s school decided to order one and SunnyMoney arranged for the lights to be delivered through the school. Many of his students are now benefitting from brighter, safer light for longer and when our research team followed up with Mr Mwenga he told us that:

“Most importantly their academic performances have been improved much, since acquisition of this solar light... Their health has been stabilized since they no longer suffer from headache [and] coughing,” which can be particularly bad during exam periods when children spend a long time studying with a kerosene lamp or candle.

Working with teachers helps SunnyMoney to educate communities about the benefits of solar and reach more people.

The future

Tens of thousands of solar lights now shine across Tanzania, but there are still 37.7 million people living off-grid with no access to power.

We are proud of what we have achieved but there is still so much more to do. In 2014, we aim to bring solar lights to tens of thousands more households across the country. For this to happen we need to:

- ✓ Expand and adapt our innovative model to reach those most in need;
- ✓ Strengthen our partnership with the Tanzanian government to support a more sustainable solar market for all;
- ✓ Build on our research to share knowledge and use the learning to improve the effectiveness of our work;
- ✓ Work alongside fantastic donors and partners who understand and support our approach.

“I do not know where to access the reliable solar lights.”
Evaristo Mhanga, Iringa

We cannot do this alone. Join us in the fight for clean light in Africa and help us to eradicate the kerosene lamp for good.

Get in touch

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GLOBALLY

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