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## Malawi windmill boy with big fans



William Kamkwamba educated himself in his local library

By Jude Sheerin  
BBC News

**The extraordinary true story of a Malawian teenager who transformed his village by building electric windmills out of junk is the subject of a new book, *The Boy Who Harnessed the Wind*.**

Self-taught William Kamkwamba has been feted by climate change campaigners like Al Gore and business leaders the world over.

His against-all-odds achievements are all the more remarkable considering he was forced to quit school aged 14 because his family

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could no longer afford the \$80-a-year (£50) fees.

When he returned to his parents' small plot of farmland in the central Malawian village of Masitala, his future seemed limited.

But this was not another tale of African potential thwarted by poverty.

### Defence against hunger

The teenager had a dream of bringing electricity and running water to his village.

And he was not prepared to wait for politicians or aid groups to do it for him.

The need for action was even greater in 2002 following one of Malawi's worst droughts, which killed thousands of people and left his family on the brink of starvation.

Unable to attend school, he kept up his education by using a local library.

Fascinated by science, his life changed one day when he picked up a tattered textbook and saw a picture of a windmill.

Mr Kamkwamba told the BBC News website: "I was very interested when I saw the windmill could make electricity and pump water.

"I thought: 'That could be a defence against hunger. Maybe I should build one for myself'."

When not helping his family farm maize, he plugged away at his prototype, working by the light of a paraffin lamp in the evenings.



“ Many, including my mother, thought I was going crazy - people thought I was smoking marijuana ”

William Kamkwamba

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But his ingenious project met blank looks in his community of about 200 people.

"Many, including my mother, thought I was going crazy," he recalls. "They had never seen a windmill before."

### Shocks

Neighbours were further perplexed at the youngster spending so much time scouring rubbish tips.

"People thought I was smoking marijuana," he said. "So I told them I was only making something for juju [magic].' Then they said: 'Ah, I see.'"

Mr Kamkwamba, who is now 22 years old, knocked together a turbine from spare bicycle parts, a tractor fan blade and an old shock absorber, and fashioned blades from plastic pipes, flattened by being held over a fire.

"I got a few electric shocks climbing that [windmill]," says Mr Kamkwamba, ruefully recalling his months of painstaking work.

The finished product - a 5-m (16-ft) tall blue-gum-tree wood tower, swaying in the breeze over Masitala - seemed little more than a quixotic tinkerer's folly.

But his neighbours' mirth turned to amazement when Mr Kamkwamba scrambled up the windmill and hooked a car light bulb to the turbine.

As the blades began to spin in the breeze, the bulb flickered to life and a crowd of astonished onlookers went wild.

Soon the whiz kid's 12-watt wonder was pumping power into his



“ William Kamkwamba's achievements with wind energy show what one person, with an inspired idea, can do to tackle the crisis we face ”

Al Gore

family's mud brick compound.

### 'Electric wind'

Out went the paraffin lanterns and in came light bulbs and a circuit breaker, made from nails and magnets off an old stereo speaker, and a light switch cobbled together from bicycle spokes and flip-flop rubber.

Before long, locals were queuing up to charge their mobile phones.

Mr Kamkwamba's story was sent hurtling through the blogosphere when a reporter from the Daily Times newspaper in Blantyre wrote an article about him in November 2006.

Meanwhile, he installed a solar-powered mechanical pump, donated by well-wishers, above a borehole, adding water storage tanks and bringing the first potable water source to the entire region around his village.

He upgraded his original windmill to 48-volts and anchored it in concrete after its wooden base was chewed away by termites.

Then he built a new windmill, dubbed the Green Machine, which turned a water pump to irrigate his family's field.

Before long, visitors were traipsing from miles around to gawp at the boy prodigy's magetsi a mphepo - "electric wind".

As the fame of his renewable energy projects grew, he was invited in mid-2007 to the prestigious Technology Entertainment Design conference in Arusha, Tanzania.

### Cheetah generation

He recalls his excitement using a computer for the first time at the

#### WINDS OF CHANGE

- ♦ **2002:** Drought strikes; he leaves school; builds 5m windmill
- ♦ **2006:** Daily Times writes article on him; he builds a 12m windmill
- ♦ **2007:** Brings solar power to his village and installs solar pump
- ♦ **Mid-2008:** Builds Green Machine windmill, pumping well water
- ♦ **Sep 2008:** Attends inaugural African Leadership Academy class
- ♦ **Mid-2009:** Builds replica of original 5m windmill

event.

"I had never seen the internet, it was amazing," he says. "I Googled about windmills and found so much information."

Onstage, the native Chichewa speaker recounted his story in halting English, moving hard-bitten venture capitalists and receiving a standing ovation.

A glowing front-page portrait of him followed in the Wall Street Journal.

He is now on a scholarship at the elite African Leadership Academy in Johannesburg, South Africa.

Mr Kamkwamba - who has been flown to conferences around the globe to recount his life-story - has the world at his feet, but is determined to return home after his studies.



William Kamkwamba and Bryan Mealer (left) spent a year writing the book

The home-grown hero aims to finish bringing power, not just to the rest of his village, but to all Malawians, only 2% of whom have electricity.

"I want to help my country and apply the knowledge I've learned," he says. "I feel there's lots of work to be done."

Former Associated Press news agency reporter Bryan Mealer had been reporting on conflict across Africa for five years when he heard Mr Kamkwamba's story.

The incredible tale was the kind of positive story Mealer, from New York, had long hoped to cover.

The author spent a year with Mr Kamkwamba writing *The Boy Who Harnessed the Wind*, which has just been published in the US.

Mealer says Mr Kamkwamba represents Africa's new "cheetah

generation", young people, energetic and technology-hungry, who are taking control of their own destiny.

"Spending a year with William writing this book reminded me why I fell in love with Africa in the first place," says Mr Mealer, 34.

"It's the kind of tale that resonates with every human being and reminds us of our own potential."

Can it be long before the film rights to the triumph-over-adversity story are snapped up, and William Kamkwamba, the boy who dared to dream, finds himself on the big screen?

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**We asked for your reaction to this story. Please find a selection of your comments below.**

Kudos to this lad for his perseverance. The answers to Africa's problems lie within - not from well meaning do-gooders from the West giving continual handouts. He'll go far and probably end up as prime minister of Malawi.

***Sue, London UK***

This remarkable example shows how much of a contribution one could make by taking an initiative with a sound vision.

***Ziyad, Maldives***

My response? I am in (joyful) tears. This is a great example of perseverance and steadfast hope despite "dire" circumstances. It also affirms the need to share education and technology, to empower people to find sustainable solutions to their circumstance. Thank you for your perseverance and positive spirit to help your own people. May people like you multiply.

***J. Miners, Canada***

This story is splendid, it is solid. It is what the whole of Africa should hear and learn about. It will ignite a new spirit in the continent's young minds who badly need such inspiration to get Africa going. Accomplishing something out of obscurity and carving a place for yourself in history like this Malawian shows that the human potential can never be limited, thus Africa could change if this mindset is

nurtured and developed.

***Brima Karl Samura, Freetown, Sierra Leone***

Amazing triumph of the human spirit over adversity. What a remarkable and staggeringly honourable young man. I am inspired and humbled by him. I hope this fabulously positive story goes on to change the negative attitudes that have plagued Africa. Made my day!

***Raj, London***

William's achievements portray that anyone can do anything as long as they hope to do it and don't stop at only hoping but aim at making it happen. It shows that there are possibly other intelligent kids out there in Africa but what they lack is perhaps resources or vigour that they can make great things happen. This shows that if we Africans worked together as a team, and solved problems not as individuals, we would not be bothered at all by drought and power problems, most especially in our rural areas. I hope our young generation gets to read your story William, am sure it will change many hopeless minds that have always thought 'they can't'. Tell them William, tell them, that 'YES WE CAN'

***Daisy, Kampala, Uganda***

I love what this boy has done because he has used his own innovative ideas to power a village. I work in rural Kenya and I will definitely use this story as a case study to the youth who feel so desperate to make something of their lives but don't often have anyone to look up to that made it with little education like them.

***Tess Ochino, Nairobi, Kenya***

He is a star for Malawi in this world of technology. This shows the potential of poor Malawi and Africa. There are many potential youths in Africa but poverty is hindering them to rise. It could have been a good idea that funds that got lost through corruption and wars were used to provide an environment for such potential intellectuals to achieve their God given dreams/capabilities.

***Gerald Mabveka, Lilongwe, Malawi***

What a fabulous, heart warming story. Congratulations on all of your hard work. You will be an inspiration to everyone who reads or hears about your triumphs. One of my former students Leo who is from

Shandong, will go to the Gobi Desert in Inner Mongolia to install wind turbines in November.

***David, Xi'an, Shanxi China***

While not wanting to detract from this chap's achievements, I'm very surprised that this is not already common across the region. On my travels to South America, and mainly Patagonia - where there is no concept of electricity or running water outside the main towns - people have been using windmills to pump water for livestock and themselves, as well as generate electricity, for decades. One would think that it was an obvious solution for NGOs and charities working in poverty and drought stricken countries. But good luck to William: well done!

***Joseph, London, UK***

It is amazing for a school dropout to do such a thing. It should be a lesson to all Africans that nothing is lost, no matter what the situation. So Africans should all work no matter where they find themselves. God should enlighten him to do great things.

***Isaac Tuffour, Effiduase-Ghana***

Congratulations for publishing for once a positive story! Mr Kamkwamba was able to achieve his dream because he went to school and had the opportunity to have access to a library, but also because he believed that changes can be made. What a lesson to teach to our European youth who complain about everything, and have all the opportunities and but no will to use them positively.

***Burke, Brussels, Belgium***

Such are the stories that Africa needs. Stories that can inspire and galvanise our youths to think big. And maybe shame our leaders to be positive in the interest of their people.

***Babshow, Lagos, Nigeria***

Now that's inspirational and that's how you would change the world. Physically making changes and not all that political talk.

***Helen Lau, London***

Reading this almost brought tears to my eyes. What a great story - human determination in the face of real adversity. I feel humbled.

Warm regards to the young man!

***Brian Cockburn, Tunapuna, Trinidad & Tobago***

Definitely a remarkable story. Who says one person cannot make a difference? It is certainly a story worth telling the world about as it inspires us to become the best that we can be, and never give up. My sincere congratulations to William! A young man that puts many adults to shame.

***Karen O'Connor, Bunbury, Australia***

Amazing story, but a shame BBC has not done it justice. For all the implications Mr Kamkwamba's remarkable story raises, the article's conclusions disappoint. The "boy" who "dared to dream"? Will he get a film deal? Is this really what one takes away from Mr Kamkwamba's achievements? A severely disadvantaged young person applied his effort and abilities to address a serious problem, and greatly improved his community's quality of life. His innovation is an inspiration to millions, exemplifying the kind of home-grown sustainable development western governments and NGOs have scrambled after (and spent billions on) for years, with marginal success. Mr Kamkwamba, and others like him, need more attention, support and resources to expand their work. Not speculation on their Hollywood prospects. At the very least, they deserve more mature, respectful coverage of their stories in the future.

***Jessica Donovan, Kigali, Rwanda***

I just wish to say that if I were ever given the opportunity to meet William Kamkwamba I would express an enormous gratitude for allowing his story to circulate the world. He serves as an inspiration to everyone, especially to our generation, the ones who are currently struggling to graduate and become what he has - an individual who has shown strength and endurance to positively influence his community as well as everyone else residing in other more technologically advanced areas of the world. Thank you Mr Kamkwamba!

***Natasha, Miami, FL***

Our governments in Africa need to encourage these people. It is unfortunate that these people are not recognised and assisted

accordingly. Imagine, I am in Malawi but I have learnt about this man through the BBC.

***Patrick Gondwe, Blantyre, Malawi***

That is what Africa truly wants. I am very proud by the deeds of Mr Kamkwamba. He has a wonderful mind. We shouldn't expect everything from someone else to teach us. If we look inside and use our potential, it is possible we can make a difference. Wishing you success in your future endeavours! God Bless you!

***Anteneh Tadesse Asmamaw, Bahir Dar, Ethiopia***

This is a really inspirational story. So many young people get sidetracked when they find themselves in difficult life situations but this youngster has the resilience of our ancestors. He is truly a leader and a hero. Congratulations.

***Nadia, Kingstown, St Vincent and the Grenadines***

It's amazing to see how much talent and commitment we have in this world, it seems this world could gain more if we were to concentrate more on the less fortunate and third world countries. I believe it's the only way forward rather dealing with the politicians. Wonder how many of this kind we have out there, together we can change this world just by looking to the next person to you and offering a hand or advice if you can.

***Richard Mupfumba, Horley, Surrey, UK***

It is indeed a great joy to see a talented young African brother having a big dream to modernise his community with water and electrical supply. Africa has a lot of talented youths but there are no resources to work on. The intelligent poor children have no seats in the classroom and our greedy politicians are only looking after their own interests. Job well done my brother, I hope many will take your steps in the love of our own people. Let Africans think positively for our way forward and stop the killing and corruption.

***Musa Badjie, The Gambia***

After all that effort: "Before long, locals were queuing up to charge their mobile phones." Sigh - and what did they use before?

***Robert Cailliau, Preveessin-Moens France***

It is due to his zeal and vision to help his fellow countrymen that he dared to make his dream come true. We should have more such people and the world will be a better place

***Lawrence Lim, Singapore***

Kamkwamba's story is a story of defying impossibilities, determination and that is what the world needs!!

***Nkomo Dingilizwe, Zimbabwe, Harare***

Truly inspirational!! I'm an engineer with years of experience so I take my hat off!! Its so nice to hear something nice happening for once! Good on him and all those who he wishes to help.

***Paul, Lincoln, UK***

As a Malawi I feel great, and would appreciate very much if African governments can do more to support these many talented young ones.

***Kondwani Mpahuwa, Kanengo , Lilongwe, Malawi***

Kamkwamba is a gift from God. If it wasn't so, his idea could have not materialised, through the BBC. I would like his story to be published in every African country, so that gifted teenagers like Kamkwamba will come up. Congratulations Kamkwamba, I am really proud of you. Well done, and may Lord Bless you.

***Esther Richard Semkuya, Dar Es Salaam, Tanzania***

There is so much hope for Africa and this young man shows what is possible with meagre resources. We do not have to wait for corrupt governments, officials or donors to sort out, we just need to go back to basics. So proud and so challenged!!

***Eva, Munich, Germany***

I'm living in Malawi at present. Unless you've lived here you can't possibly understand just what an amazing achievement it is! I live in a city and the electricity cuts out most nights.

***Katy Berry, Formby Merseyside UK***

What an inspirational story! He has shown the world, especially Africa, that the development and progress of Africa lies in the hands of Africans. Africans must dig deep into their skills and talents, using them to build their communities and nations as a whole. Nothing

stopped him, despite the obstacles and challenges he encountered. I am very proud of him and if he should set up a development fund I will definitely take part because it will be for a good cause.

**Eddie Blankson, Toelloese - Denmark**

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