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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 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.





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

William Kamkwamba

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.

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.





“ **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

"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 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.

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

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 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.



William Kamkwamba and Bryan Mealer

(left) spent a year writing the book

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.

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?