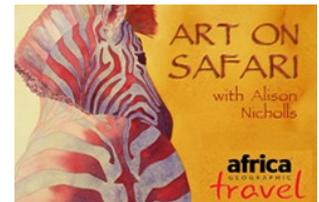


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Warka Water – capturing dew in the desert

Posted on 28 December, 2015 by Georgina Lockwood in African Innovation — 0 Comments

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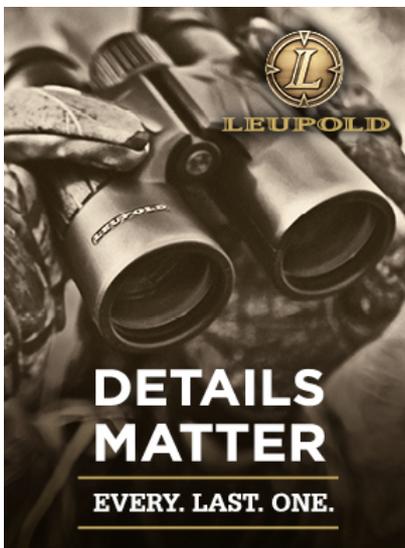
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Italian artist, **Arturo Vittori**, has woven a simple concept into being called **Warka Water** to capture water drops from the dust-ridden air of Ethiopia. In a safe and sophisticated manner, a **Warka Water** basket can be built within a week, and it costs US\$550 to make one from simple materials. **Vittori** was inspired to create such a project whilst travelling in Africa where he was exposed to the daily struggle for many people to find clean water.



©Warka Water

"Warka Water is designed to provide clean water as well as ensure long-term environmental, financial and social sustainability," says creator Arturo Vittori.





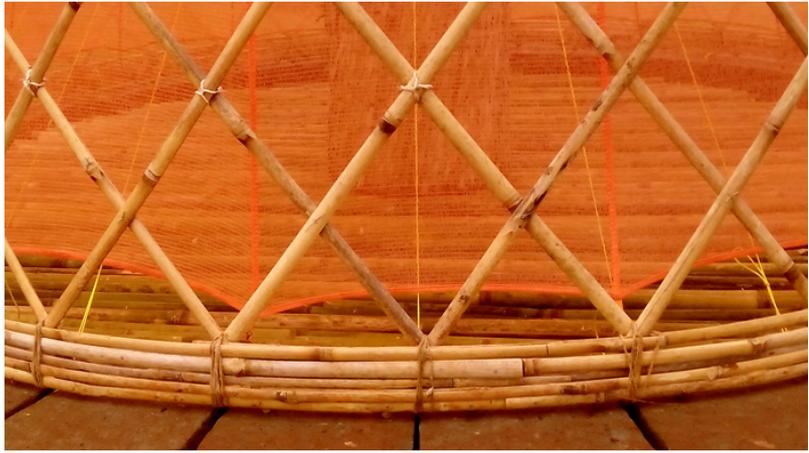
©Warka Water

Vittori believes that Warka Water can provide 100 litres of uncontaminated water in villages through the science of evaporation. Relying on temperature discrepancies, the concept is as simple as night and day. There is water in the air, even in cactus-inclined areas – it just needs to be caught. When temperatures drop, water is able to condense, but it needs a net to concentrate on. That's where WarkaWater comes in.

Warka Water towers resemble a 10-metre-high version of an upside-down African fishing basket. They are made from bamboo or juncos stalks, which are assembled in such a way as to withstand strong winds. The internal mesh is orange nylon or polypropylene (the same material your local bag of *naartjies* come in), which captures the water droplets that run to the base of the structure.



©Warka Water



©Warka Water



©Warka Water

The project is currently being implemented in another arid nation, Lebanon, where it is undergoing technical improvements and testing in order to maximise its efficiency and generate sponsorship. These Ethiopian skyscrapers are commercially viable, which should lower the manufacturing costs and make them even more appealing.

Kevin Carter's iconic photograph of a Sudanese child struggling to get to a UN camp, followed by a vulture, paints a dull portrait for the realities in Sub-Saharan Africa. A lack of water in these remote rural villages perpetuates the cycle of poverty: infants walk countless miles each day in the search for water when they should be in school. Should Vittori's creation be successful, it could alleviate poverty by preventing locals from having to well water to survive.



©Warka Water



Vittori states: "And to find water, sometimes you have to drill a well depth of 500m. That is, it is technically difficult and expensive. In addition, the pumps require electricity and spare parts."

Somewhere in between the 'scrabble for Africa' and a coup of dictators, the Sub-Saharan region lost out and is now one of the poorest areas in the world. Although economic indicators show an improvement in poverty levels, the reality is very different: Africa needs what the Western world has on tap. Developed nations have attempted to resolve African problems – namely clean drinking water – with Western technologies. But after a year, Bill Gates' US\$2,200 lavatories, although a bold attempt to create a more sanitary environment, presented nothing but a pipe dream.

On the other hand, sustainability has proven to be of greater importance than advanced technology in resolving African issues. Expensive and complicated to run or repair, the hope of technology is flawed. However, incentives for sustainability require a combination of economic, environmental and social criteria to be met. Warka Water, although too soon to tell, seems to get the formula right – it draws on the Sub-Saharan culture and is made from environmentally friendly materials that are locally accessible. In addition, the towers are relatively cheap and fast to produce. The model relies on attention to detail, but is no more complicated than geometrically strung Zulu beads, which means that locals can build it themselves.

"Once locals have the necessary know-how, they will be able to teach other villages and communities to build the WarkaWater towers."



©Warka Water



©Warka Water



©Warka Water

Nature has been capturing water from a beetle's back long before Vittori's Warka Water. Travelling across the diamond-rich west coast of Africa, one may come across a true precious gem: **the Namib beetle**, which uses the bumps on its back to collect drinking water. Fog harvesting as an untouched water source was first inspired by the Namib beetle and has been implemented in many desert states.



©Hans Hillewaert

Harvesting water from the sky is by no means new to nature or the area, although it is largely untapped. Jomo Kenyatta of the University of Agriculture and Technology has placed considerable resources into developing fog harvesters in local villages.

The manifestation of the idea has taken the skills of an aerospace architect. Vittori, co-founder of *Architecture and Vision*, combined his knowledge of design and art with his belief in technological transfer and sustainability to create Warka Water.



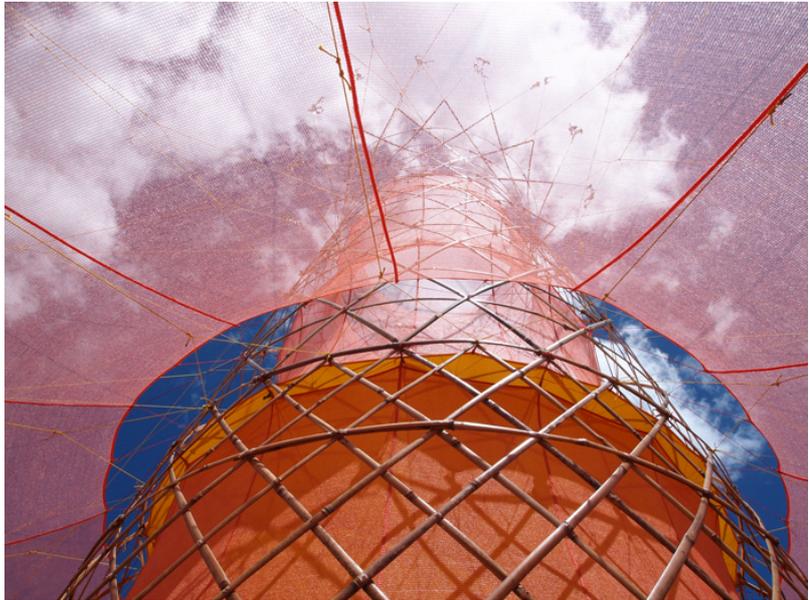
©Warka Water

The Warka Water structure paints a dramatic picture in its harsh landscape. Vittori named his work after the Warka tree, a wild fig, which plays an important part in rural life in Ethiopia. The tree provides shade and nutrition to goat herds. It is also a place of gathering, where villagers pray for good rains in times of drought. The use of the cultural symbolism of the Sub-Saharan people in the tower's meaning and design adds to the attraction of Warka Water, proving that imagination – rather than pricey technology – may indeed solve the social and environmental issues of Africa. Perhaps the villagers' prayers have finally been heard.



©Bernard Gagnon

Warka Water uses Western innovation to create not only a feat of engineering, but a beautiful artwork. The genius behind Vittori's masterpiece is this: in addition to water, he has captured the essence of Africa. The Warka Water design is stylish – like most creations from Italy – but a lot more practical than a pair of Versace pumps. This 21st century creation looks as if it has always belonged on a desert horizon, peppered amongst villagers and goats, standing as more than just a mirage of hope for the future.



©Warka Water

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About Georgina Lockwood

I grew up escaping Johannesburg city to go horse-back riding in the Magaliesberg mountains or Land Roving in the Madikwe sand veld. Accustomed to the sun on my face and the wind in my hair, I then embarked as a trainee sailor on a three-masted barque to travel the world beyond my beloved Southern Africa. Ship life steered me to remote destinations and ecological treasure houses like the Galapagos, Pitcairn Island and Polynesia. Once grounded, my love of the outdoors developed into a deep respect for the environment and a desire to preserve it which led to a full time career at Africa Geographic.

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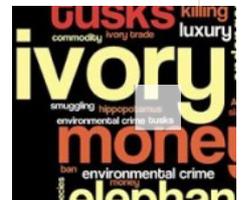


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