

# The Ututus: four families, five wells and a windpump

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In rural development, initiatives often take a stronger root when they have been “discovered” locally, rather than introduced from elsewhere. That doesn’t mean we should stop spreading technologies, but it does perhaps mean that stimulating people to solve their own problems may lead to more lasting solutions. Take the case of the Joseph Ututu and his three brothers in Mwingi District in Eastern Kenya, who between them have dug wells and constructed an ingenious windpump from old bicycle parts and roofing materials... without a “do-it-yourself” manual. But first, what problems were they trying to solve?

In semi-arid Mwingi District, almost all farmland is rainfed. The main crops are cereals (maize, sorghum and millet) and legumes (pigeon peas, beans and cowpeas) with occasional fruit trees and bananas. There is scarcely any irrigated land at all. Soil erosion, low rainfall and drought are major threats to crop production. Data from the District Headquarters at Mwingi town confirm the water problems, which are domestic as well as agricultural. It is estimated that only one family in five has piped water. Most other families still dig for their dry-season water in sandy river beds, taking their water home in plastic jerrycans loaded on donkeys. This can mean a six-hour round trip daily, with two donkeys carrying 80 litres of water for a single household.

The four Ututu brothers had inherited a large area of fertile farmland, which had been terraced by their father in the late 1950s. Despite this resource, they were experiencing many problems because they lacked water both for drinking (meaning wasted time, fetching water from 15 km away in the dry season)

and for irrigation (thus low yields from the meagre rainfall). In the early 1990s they were told of a nearby church that had sent some local youths to be trained in well digging. The Ututus were intrigued by the possibility that there might be water lying beneath their land that could be tapped, and employed a group of newly trained youths to help them explore for underground water.

The first successful well was dug in 1997 and water was found at a depth of 10 metres. Since then the Ututus have excavated a further four wells. One of the brothers, Joseph Ututu, had spent four years at technical college and he designed a working windpump on one of the wells. He and his brothers constructed the moving parts mainly from spare bicycle tyres, and made the sails from corrugated iron roofing sheets. Joseph is particularly proud of the enclosed pulley mechanism, which has so far worked for six years without maintenance. The windpump is fixed in position and faces the prevailing wind. At night, when the wind picks up, the sails turn very fast, clanking and creaking as they turn. One thousand litres can be pumped in this way overnight, and stored in a tank.

While it may seem extraordinary that wells had not been “discovered” in this part of Kenya until the last decade or so, the Ututu brothers have certainly capitalized on their initiative. There is a good market for water, and from the income earned they have managed to educate all their children. They have also raised vegetables for food and for sale on a small horticultural plot close to the wells. Since they began, more than 30 wells have been dug by neighbours.

Wells and windpumps are hardly revolutionary technologies; nevertheless their development by the Ututus has revolutionized the local water supply. This highlights the fact that there may be obvious natural resource potential – in this case water and wind – that lies unexploited. With improved technical knowledge, people gain the tools to make the most of their own imaginative design capability to solve local problems in the most relevant way. We should therefore recognize and encourage initiative where it occurs, and support such creativity with “scientific” knowledge. ■

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The sails of the windpump are made from corrugated iron roofing sheets.

