


[News Front Page](#)
[World](#)
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[England](#)
[Northern Ireland](#)
[Scotland](#)
[Wales](#)
[Business](#)
[Market Data](#)
[Your Money](#)
[E-Commerce](#)
[Economy](#)
[Companies](#)
[Fact Files](#)
[Politics](#)
[Health](#)
[Education](#)
[Science/Nature](#)
[Technology](#)
[Entertainment](#)
[Have Your Say](#)
[Magazine](#)
[In Pictures](#)
[Week at a Glance](#)
[Country Profiles](#)
[In Depth](#)
[Programmes](#)

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Rural Africa joins mobile revolution

By Jon Cronin

BBC News business reporter in Kigoma, Tanzania

A group of women cultivate a small plot of land, turning the soil with wood and metal hoes in a way handed down from generation to generation.

It may appear at first glance an unchanged scene of rural life in sub-Saharan Africa.



Huge mobile base stations are appearing across rural Tanzania

But in this remote and hilly north west corner of Tanzania, the women are working in the shadow of some of the latest telecommunications technology.

Their land surrounds a 50 metre mobile telecoms transmitter, part of a modern network which is gradually opening up some of Tanzania's poorest and most remote regions to mobile communications.

Like many countries in East Africa, Tanzania boasts a small but thriving mobile phone industry. Three operators, Vodacom, Celtel and Mobitel, are busy rolling out networks, while a fourth, Zantel, is based on the island of Zanzibar.

'Difficult work'

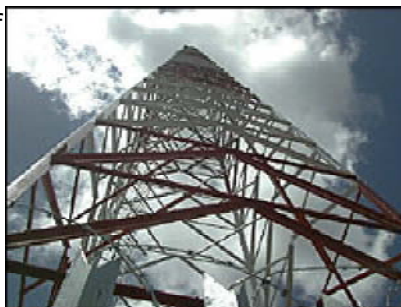
Until now, much of their network coverage has focused on key markets in the commercial capital, Dar es Salaam, as well as in major tourist areas.

But the pressure to grow and provide greater national coverage has seen the companies begin to invest in networks linking smaller regional towns and villages where most Tanzanians live.

In order to do this, thin lines of transmitting towers - known as base stations - are gradually being built, criss-crossing Tanzania's vast and varied landscape.

It is a major undertaking, with financial costs to match.

Tanzania's biggest mobile operator, the South African



Building a mobile network in rural Tanzania is a huge operation

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firm Vodacom, is planning to [OPEN](#) [In pictures](#) launch services north of Kigoma, a remote border region where its closest rival, Celtel, already has a presence.

"It's a difficult place to work," says Billy Adams, a project manager for the engineering giant Siemens which is overseeing the project. "The roads are not that good. We're quite far away from any sort of infrastructure. It's not the sort of place where you can nip down to the shop to buy some nuts and bolts if you've got anything missing."

Dangerous conditions

One of the biggest problems that operators face is transporting the tonnes of steel and sensitive equipment needed for each tower across roads which are often little more than pot-hole riven dirt tracks.

It is no coincidence that the Swahili word for road is 'barabara', reputedly after the sound tyres make bumping along the rough earth.

Journey times are slow - and often dangerous in dusty or rainy conditions - and it is not uncommon for trucks carrying equipment to take weeks to arrive at their destinations.



Added to that, roads in the region are under curfew - Kigoma borders Burundi, the scene for years of Hutu-Tutsi violence in which an estimated 300,000 people, most of them civilians, have been killed - and routes are closed after sunset to prevent attacks from bandits.

"But you're relatively safe as long as you toe the line," Mr Adams says, although the traffic can pose as much a danger to local people who use the roads.

"We have had a few incidents when we've knocked cyclists down, but it doesn't happen very often."

Local opposition to the building work of mobile firms appears minimal, but the operators are keen to keep villagers onside if an accident occurs. Compensation usually follows any incident.

Small businesses

Villagers are also often employed in casual labour when work begins at a remote base station site.

"The spin-off for the villagers is quite huge," says Mr Adams. "They sell vouchers for pre-pay phones, small business are set up and families start coming out of absolute poverty."

His views are shared by Julius Lyakurwa, project manager for Maktech, a Tanzanian company which installs telecoms equipment on Vodacom's base stations.



Mobile phone use in the remote border town of Kigoma is booming

"The local economy usually grows with communications," he says.

Head for heights

Mr Lyakurwa's team of riggers, all of whom are Tanzanian, scale the base stations, installing communications equipment which link the towers and create a mobile network.

But given the remote and often mountainous terrain where base stations are built, his workers need a head for heights.

The 50 metre towers are often placed at the highest point available to give them the best line of sight to neighbouring base stations, usually around 25km away.

"It's a dangerous job but we take safety seriously," Mr Lyakurwa says. "We've been lucky so far, but for places like this there is risk."

No shelter

Dotted around each tower are wooden huts or straw shacks where a few local men - usually from the nearest village - live and work as security guards.

"They make sure that nobody steals the diesel fuel or bits of wire to make a bangle, or so on," says Mr Adams.

Because there is little in the way of any electricity supply in rural areas, each base station is equipped with its own diesel generator, which needs to be topped up with fuel regularly.

The guards generally receive higher wages than their fellow villagers, but life is not always that easy.

At one hilltop base station in the north of Kigoma region, Angelus, a local villager working as a security guard complains that he has no toilet, shelter or food at the site.



Local villagers are often used to guard remote mobile base stations

Mobile costs

Like many Tanzanians, the idea of owning a mobile phone may seem a distant prospect for Angelus.

Poverty is rife and the majority of people live on less than \$1 a day.

But for rural communities in developing countries like Tanzania, pre-pay mobile phones - which enable users to send relatively cheap SMS text messages across distances that would otherwise take days to travel - are changing lives for the better, says Dar es Salaam-based telecoms industry analyst, Simbo Ntiro.

"If you do not have access to a mobile phone, you are simply unable to operate within a large country like Tanzania, which has a difficult transport network," he says.

"You should not ask what the cost is if you have a mobile phone, you should look at it the other way round. What is the cost if you do not have a mobile phone?"

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