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**PAGE ONE****POWER STRUGGLE****In Africa, Outages Stifle a Boom**

**Electricity Cuts  
Plague 35 Nations;  
Waiting in Gakuto**

By SARAH CHILDRESS

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JOHANNESBURG, South Africa -- The global commodities boom is claiming another casualty: Africa's already-shaky power grid.

With the continent's power-hungry mining sector booming and the economy along with it, national electricity grids are fraying. Higher prices for coal and oil are only intensifying the strain on electricity companies.



Associated Press

A street vendor sells her wares by the light of a kerosene wick lamp in Lagos, Nigeria.

The poor in South Africa's sprawling townships have long been used to power cuts. Now, upscale shoppers here browse darkened malls, while moviegoers are accustomed to outages disrupting shows. In nearby Botswana, plans to bring electricity to rural villages are threatened as the government struggles to maintain power at the nation's diamond mines.

Frequent and disruptive power outages plague about 35 of sub-Saharan Africa's 53 countries, according to the World Bank. The situation is triggering violence and threatening deeper instability across a region already wracked by unrest. Residents of impoverished Port Harcourt, Nigeria, enraged at paying for inconsistent or nonexistent electricity, recently have chased away the power company's bill collectors with machetes.

In South Africa, Eskom, the government-owned power company, is taking drastic actions to prevent its national grid from collapsing altogether. Last month, it petitioned federal regulators to allow it to hike rates by more than 50% -- a stinging increase designed to curb demand. It also reduced power to the country's robust

mining industry. The drop in capacity has helped elevate international gold and platinum prices.

**DARKNESS IN GAKUTO**

- [Botswana Village Waits for Lights to Come On](#)<sup>1</sup>

"The situation is critical," says Steve Lennon, Eskom's managing director for resources and strategy. The company has had to resort to scheduled outages since January, and recently warned that additional cuts may be necessary.

In a rare mea culpa, South African President Thabo Mbeki apologized for the electricity shortages during his February state-of-the-union address. He declared the situation to be a "national emergency" and vowed to confront the problem.

Unreliable power poses a major constraint on the region's economic development. Much of sub-Saharan Africa still operates largely on the margins of the global financial markets, isolating it from the economic turmoil buffeting the developed world. Booming commodity prices of the past few years, however, have made the region attractive to foreign investors. Now the electricity crisis is damping their enthusiasm.


"It's one of the biggest concerns for the business community," says Vivien Foster, the World Bank's lead economist on sustainable development in Africa.

**Economic Impact**

Outages are costing African economies as much as 2% of their gross domestic product, according to World Bank estimates. For big businesses, outages are reducing revenue by as much as 6%, according to the bank's surveys of manufacturing firms in Africa. Sales losses can approach 16% for smaller companies operating in the continent's vast, informal economy. These include unregistered convenience shops and hair salons that serve many African cities and villages.

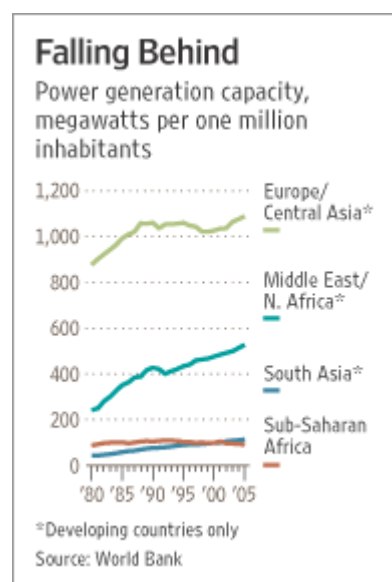
Power for most Africans is still a luxury. Just under a quarter of sub-Saharan Africa's population has access to electricity in the first place, and that is concentrated in urban areas. Africa has the capacity to generate about 63 gigawatts of power for roughly 770 million people -- about what Spain produces for its population of 40 million. For most African countries, the World Bank estimates that universal access to

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electricity is at least 50 years away. But these days, even the few who have come to expect electricity are finding it increasingly difficult to come by -- or afford.



New plants -- some powered by coal or oil -- can take years to build, so some countries are resorting to pricey emergency measures: They're using generators powered by diesel or other fuel and attempting to store up extra coal to feed existing plants. All this is happening just as energy prices are rising, which means they can't afford enough coal, or enough oil, to fill the gaps.

"We pay a bill this week, and put off another one," says Ibrahima Coulibaly, an accountant for a construction firm in Dakar, Senegal. Sometimes, he says his children's school fees go unpaid so that he can pay his electricity bill, which has shot up 88% over the past three years due to escalating oil prices. "You have to make a choice between what is indispensable and what is superfluous," he says. "Electricity is indispensable."

Africa's power crisis is halting or reversing modest efforts in recent years aimed at bringing cheap electric power to rural areas. Economists call these residents the "energy poor," because without lights or the ability to power new technologies or appliances, people have difficulty competing or progressing in a modern world.

One of the hardest hit regions so far is South Africa, the continent's largest and most vibrant economy. Since 2000, the country's gross domestic product has more than doubled, from \$133 billion in 2000 to \$272 billion last year. The country's power grid hasn't kept up. Despite warnings from Eskom in 1998 of an impending crisis, the government didn't order new plants built until 2004.

The country has Africa's most developed infrastructure -- from busy freeways to speedy Internet connections -- lending it a first-world feel. Johannesburg, the commercial hub, is home to a burgeoning stock market and wealthy gated communities. The country also has vast reserves of diamonds, platinum, gold and other metals that it hauls from some of the world's deepest mines.

On the country's southern coastal tip, Cape Town boasts sprawling beach homes. Amid the past few years of sharply rising commodities prices, the mining-heavy economy here has thrived. Investment bankers and private-equity investors are rushing to scout for deals.

The power-intensive mining industry puts additional strain on the grid. Mining companies have had to dig deeper in recent years to get access to dwindling reserves. That requires more electricity. The mining industry, responsible for 7% of the country's economic output, draws 17% of the country's electricity production.

Last year, Eskom found itself unable to meet demand for the first time. Blackouts this January snarled traffic as many stoplights in Johannesburg went on the blink. Retail stores reported a spike in thefts during power outages and some restaurants have invested in costly generators to keep customers coming.

South Africa's cuts are roiling neighbors. That's because Eskom exports power to much of the region. In copper-rich Zambia, South Africa's outages forced the country's largest mining company to suspend operations altogether in January. Electricity demand in Botswana, a big diamond producer in southern Africa, is growing at 8% a year. Diamond mines suck up roughly half of the country's overall consumption. South Africa is now cutting back on the electricity it's willing to sell to the country.

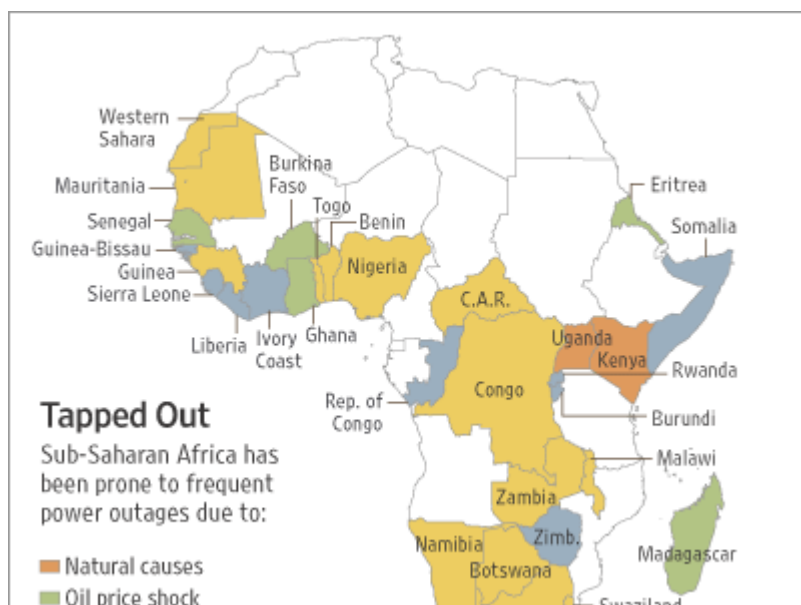
## Botswana's Sole Plant

Also at risk: government-funded electrification efforts aimed at bringing power to the countryside. Botswana has only one coal-fired power plant. In the past, it has relied on cheap imports from South Africa for 70% of its electricity needs. Eskom has said it will cut Botswana's share of power in half by 2010, leaving the country scrambling to find other solutions or face a crippling shortage.

Energy Minister Ponatshego Kedikilwe acknowledged earlier this year that Botswana had an "emergency" situation. "With the rate of demand and levels of growth one could say that should've been anticipated," he said during a recent news conference. He noted that the government was looking into energy-saving measures -- such as public awareness campaigns -- to reduce demand.

Botswana officials are also in the process of expanding the country's sole power plant and are soliciting bids from independent power producers. Given those measures, Mr. Kedikilwe predicts that by 2011, Botswana will actually have a small electricity surplus.

For now, though, the country's crisis has endangered a new government project to bring electric power to the country's energy poor in about 100 rural villages. Last fall, the government installed power lines connecting the bush village of Gakuto, about 12



miles from the capital Gabarone, to the national grid.

The village is a collection of tidy homes scattered along red-dirt paths. The lack of electricity makes Gakuto a quiet town. Without lights or refrigeration, there are few shops and no running water.

The prospect of power in the village excited its 1,500 residents, many of whom moved from other rural areas because they could afford to buy their own homes here. Eager Gakuto residents paid about \$130 each to wire up their homes when they heard about the electrification project. That's a major sacrifice considering some make as little as \$75 a month.

The effort got off to a rough start. Late last year, vandals stole some of the town's wiring, delaying the launch. The government said that it would replace it, and then Gakuto would be back on the schedule. Then the power crisis struck, and the village is still waiting. The energy minister, Mr. Kedikilwe, says that the rural electrification program won't be derailed by the power crunch. But Botswana is already struggling just to keep the lights on in the capital.

At the Ministry of Minerals, Energy and Water Resources in Gabarone, the halls remain dark and un-air-conditioned. A sign on the elevators warns of spontaneous power cuts and advises would-be passengers to ride at their own risk.

## Dreams on Hold

In Gakuto, middle-class residents are putting their own dreams on hold. When the Bika family learned that electricity was coming to Gakuto, they built a small slaughterhouse and bought a deep freezer for their chicken farm. They wired the chicken coops for electric lighting. Under bright lights, chickens eat constantly, fattening up for slaughter. But the Bikas' 2,000 scrawny chickens now peck halfheartedly at the feed under smoky, paraffin lanterns. Without electricity for refrigeration, slaughtered chickens rot within hours, so the Bikas have to sell the birds live to local families. The family tried to run the new freezer on a diesel-powered generator. But fuel costs ate through more than \$1,100 a month.



**Boitumelo Bika**

"I can't progress if there's no electricity," says Boitumelo Bika, the elegant family matriarch, her thick braids twisted into a bun. "That's why I sit, and fold my hands."

Some countries like Ghana and Senegal depend on imported oil and natural gas to fuel their power plants and are now struggling to pay mounting bills. In Senegal, the government relies on imported oil to fuel all but 66 megawatts of its 623-megawatt-capacity grid. When oil prices soared past \$100 a barrel, the government, which subsidizes electricity prices, was hit hard. The government has spent more than \$300 million in unplanned subsidies since 2004 to ease its citizens' rising electricity costs and is anticipating another difficult year, as the prices climb month-to-month.

The spending has sucked the government dry at a time when it needs cash to upgrade its beleaguered power grid. "The government doesn't have a penny to invest in the energy sector," says Mohamadou Diop, an independent energy consultant in Dakar. The government can't match the price rises with new subsidies and is being forced to pass on some of the higher costs to consumers. Prices have risen 15% in just the past few months, leaving much of the power-addicted middle class struggling.

Like many up-and-coming Dakar residents, Demba Falldiop, a sales representative for an import-export company, was building a second home to rent out in the hopes of capitalizing on rising housing costs in the booming capital. Just as the walls were going up, however, Mr. Falldiop had to halt construction because of soaring power bills.

"I have another one I'm going to pay right now," he said, pulling an invoice from the pocket of his orange robe. The bill, for two months worth of power, is for about a fifth of his monthly salary.

--Elizabeth Dickinson contributed to this article.

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