

# Is Nicaraguan Canal a Boon for Trade or a Boondoggle?

Nicaragua revives its age-old canal-building dreams.

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The Brito Inlet (above) is a likely outlet for Nicaragua's first canal.

PHOTOGRAPH BY TIM JOHNSON, MCT VIA GETTY IMAGES

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**For nearly a century the [Panama Canal](#) has been the only game in town for anyone who wanted to sail from the Atlantic to the Pacific without making the long voyage around Cape Horn.**

In that time more than a million ships, from bulk carriers to cruise liners to nuclear submarines, have passed through its locks, taking advantage of the world's most famous shortcut.

Panama's canal may (or may not) soon face stiff competition. Last June Nicaragua's National Assembly overwhelmingly approved a plan to grant a Chinese company, the Hong Kong-based HKND Group, exclusive rights to build a canal spanning the country.

The planned canal could be about 175 miles (282 kilometers) long, more than three times the length of Panama's, with locks big enough to accommodate even colossal new container ships. Up to a quarter of a mile (0.4 kilometers) long, these behemoths can carry more than 18,000 shipping containers—enough to deliver a million flat-screen TVs or 148 million pairs of running shoes from factories in the Far East to markets in the West.

# A Tale of Two Canals

In 1902 Nicaragua narrowly lost out to Panama as the preferred location for a canal through the Americas. Now a Chinese company has Nicaragua's approval to build one. Digging is slated to begin in December, but the canal's route hasn't yet been revealed to the public.



MATTHEW TWOMBLY AND KELSEY NOWAKOWSKI, NG STAFF; ANA M. MYERS

SOURCES: UNIDAD SIG; MINISTERIO AGRPECUARIO Y FORESTAL, NICARAGUA; IUCN; UNEP; GRAN CANAL INTEROCEÁNICO POR NICARAGUA; HKND GROUP

The project approved by the Nicaraguan legislature also includes provisions for the construction of two deepwater ports, two free-trade shipping zones, an international airport, an oil pipeline, and a railway. Total cost: \$40 billion (U.S.)—a sum nearly four times Nicaragua's national gross domestic product.

Digging is set to begin this December, and if all goes according to plan, Nicaragua could be in the canal business by the end of the decade.

It's been a dream a long time in the making. For much of the 19th century, Nicaragua was the favored location, ahead of Panama, for a canal through the Americas. France's Emperor Napoleon III and American financiers Cornelius Vanderbilt and J. P. Morgan were but three of the century's big names who tried to get a canal built in Nicaragua. But variously, wars and revolutions, bankruptcies, politics, and scarcity of investors back home kept it from happening.



A boat navigates Lake Cocibolca, also known as Lake Nicaragua. The canal could jeopardize the lake, as links to the ocean could introduce salinity, and oil spills could contaminate the water.

PHOTOGRAPH BY ESTEBAN FELIX, ASSOCIATED PRESS

### **Whose Reality?**

Nicaragua's leaders claim the new canal will transform their country from an impoverished Central American backwater to a global trade powerhouse, create hundreds of thousands of jobs, and boost annual economic growth to a world-beating 14.6 percent.

For the Chinese, having a canal capable of handling huge bulk carriers would mean easier access to Venezuelan oil and Brazilian iron ore and soybeans, not to mention a valuable geopolitical foothold in the Americas.

But many economists, scientists, and sociologists say that the time for a Nicaraguan canal has long since lapsed, that the waterway—if it's ever completed—will end up being the world's costliest boondoggle.

The Panama Canal, they say, which has gigantic new locks scheduled to be operational next year, is more than capable of meeting future demand. They also cite projections for global warming that suggest ships could traverse an ice-free Arctic by the middle of the century, further reducing demand for passage through Central America.

And they warn that a canal through Nicaragua could be an environmental

disaster, destroying more than a million acres of rain forest, jeopardizing Lake Nicaragua—Central America's largest source of fresh water—and disrupting the lives of indigenous people, while delivering few, if any, of the promised benefits to ordinary Nicaraguans.



The Chinese company HKND Group was granted a 50-year concession to develop the canal; Wang Jing (above) is the company's chairman and chief executive.

PHOTOGRAPH BY ALEXANDER F. YUAN, ASSOCIATED PRESS

## Some Mysteries

Nine months before ground breaking is set to start on the biggest and costliest civil engineering project in Central American history, such basic details as the very design of the canal, what route it will take across the country, and precisely where financing will come from remain a mystery—at least to the general public.

Little is known about the company that's been granted the concession, or about its enigmatic chairman and chief executive, 41-year-old Wang Jing. [In a rare interview in the \*Financial Times\* last June](#), he described himself as "a very ordinary Chinese citizen" who lives in Beijing with his mother, younger brother, and daughter. His [profile on the HKND website](#) states that he is on the board of 20 companies, doing business in 35 countries.

For a very ordinary Chinese citizen, Wang is doing quite well: [Forbes](#) ranks him as number 1,210 on its list of the world's richest people, with an estimated net worth of \$1.4 billion (U.S.). He is described as having made his pile in telecommunications. While his domestic ventures appear robust, [his companies' projects overseas have met with "spotty" success](#), according to a story published in the *South China Morning Post* not long after he signed the deal to build the canal.



Among the stalled projects: installation of a national wireless network in Nicaragua said to be worth \$700 million (U.S.), of which there was still no sign more than a year after Wang announced the go-ahead.

Nevertheless, HKND's canal proposal was hustled through Nicaragua's National Assembly in just three days. There were no other bidders.

How a firm with no proven record in heavy engineering, let alone experience with a project of this scale and complexity, could have been awarded the canal concession, and why such a multibillion-dollar public works project was not put out to open tender, are questions economists, engineers, and environmentalists are asking.



A woman bathes her son at Lake Cocibolca, the largest lake in Central America and a vital potential reservoir for drinking water.

PHOTOGRAPH BY OSWALDO RIVAS, REUTERS

### **Carte Blanche for HKND**

"This is highly unusual and worrisome," says [Pedro Alvarez](#), a professor of civil engineering at Rice University in Houston, Texas, and himself a Nicaraguan. "The whole affair has lacked transparency, open bidding, independent assessment, and opportunities for multiple stakeholders to provide input."

By any reckoning, Wang Jing and his backers—widely believed to be the Chinese government—have landed a sweet deal. Under the agreement, HKND has exclusive rights to build and operate the canal for 50 years, extendable for another 50. The company can keep all the income, will be exempt from taxes for a century, and will enjoy a breathtaking degree of legal immunity. The Nicaraguan government assumes liability for any cleanup costs for environmental damage and irrevocably waives its own sovereign immunity, which means HKND is free to sue for any loss or damages.

The terms of the deal are so generous and far-reaching that parts of Nicaragua's constitution had to be rewritten to allow for them.

In exchange for all this, HKND agreed to give the Nicaraguan government a one percent shareholding in the canal for each year of operation.

"I have never seen such an apparently unilateral relinquishment of a country's sovereignty," Alvarez says, "and such a bad deal for the host, which makes many observers wonder what kinds of behind-the-curtain deals might have been made."

HKND will have carte blanche to put the canal anywhere it sees fit, acquire any land needed for the project by right of eminent domain, and hold rights to whatever minerals are found during construction.

"Would they make it go through downtown Managua?" asks [Jorge A. Huete-Pérez](#), president of the Nicaraguan Academy of Sciences. "The concession was given without an established route. Normally by law you would have to produce a full environmental impact assessment to proceed with such a project, and go through the Ministry of Environment and Natural Resources. But with this, it all rests in the hands of the Canal Authority [the local body charged with overseeing construction]."

Instead of commissioning an independent environmental study of its own, the Nicaraguan government will rely on one contracted out by HKND to a U.K.-based global consulting firm, [Environmental Resources Management](#). HKND is under no obligation to make public the results.

Neither HKND nor Environmental Resources Management responded to requests for interviews, but HKND says on its website that the company "is committed to explore this area with great care and to adhere to international standards of environmental responsibility as it proceeds."



Opponents of President Daniel Ortega's government clash with police officers during a demonstration in front of the National Assembly Building in Managua on June 13, 2013.

PHOTOGRAPH BY OSWALDO RIVAS, REUTERS VIA CORBIS

## For Greens, the Blues

Huete-Pérez and [Axel Meyer](#), an evolutionary biologist at the University of Konstanz in Germany, who has been conducting field research in Nicaragua since 1984, coauthored a [piece in \*Nature\* last month highlighting the canal's risks to the environment](#). They called for an independent assessment of the project by an international panel of experts.

"The fact that the Chinese are involved made it seem very possible to me that this thing could really go ahead," Meyer says. "The Chinese have very deep pockets, think strategically and in the long term, and they have geopolitical reasons for wanting to have their own canal in the Americas. They're also not known for being particularly good guardians of the environment."

The probable route of the canal would cut through the northern corner of Cerro Silva Nature Reserve, and, according to Huete-Pérez and Meyer, in the entire canal corridor nearly a million acres of rain forest and wetlands will be destroyed.

Construction impacts would also be felt in such sensitive and wild places as the UNESCO-designated 7,700-square-mile (19,942-square-kilometer) [Bosawás Biosphere Reserve](#). The reserve contains the second largest rain forest in the Western Hemisphere, after the Amazon Basin forest. Also affected will be the [Indio Maíz Biological Reserve](#), 1,700 square miles (4,402 square kilometers) of similarly pristine [tropical dry forest](#) along the San Juan River.

The San Juan itself would need to be dammed to regulate the water needed to operate the locks in the canal.

Mangroves and sea turtle nesting sites on the Caribbean and Pacific coasts would be bulldozed, coral reefs destroyed, and the migratory corridors of jaguars and other animals interrupted.

The lives of indigenous people, such as the Rama, Garifuna, Miskito, and Ulwa, would be undermined or destroyed, with hundreds of villages evacuated to make way for the canal and its accompanying infrastructure.

And then there's Lake Nicaragua, known locally as Cocibolca. Whichever route the canal takes, it will certainly include the expanse of Lake Nicaragua. At just over 3,100 square miles (8,029 square kilometers), it's the largest lake in Central America and a vital potential reservoir for drinking water. (As little as 2 percent of the lake's outflow into the Río San Juan could satisfy the clean-water needs of Nicaragua's six million people.)

The canal could jeopardize that freshwater resource, warns Salvadore Montenegro-Guillén, a professor of hydrology at the [Universidad Nacional Autónoma de Nicaragua](#) in Managua. Links to the ocean could introduce salinity; oil spills could contaminate the water.

Another risk is that freighters pumping bilgewater into the lake could release invasive species. That alone could devastate an ecosystem

considered a poster child for evolutionary biology, with its rich assemblages of endemic fish that have evolved in the 500,000-year-old lake.

### No Fun for the Engineers

The canal will present monumental engineering challenges. "The lake is very shallow," Montenegro-Guillén says. "In the dry season on Lake Cocibolca, even the local barges with their five-foot [1.5-meter] drafts have troubles with the bottom of the lake."

To make practical their vision of the world's largest container ships steaming across the lake, the Chinese say they'll dredge a channel 30 yards (27 meters) deep, 569 yards (520 meters) wide, and 56 miles (90 kilometers) long.

"To clear a channel like that means they will need to be dredging up 1.3 billion tonnes [1.4 billion short tons] of mud, sand, and stone," Montenegro-Guillén says. "That's a mountain of material to be disposed of somewhere."

"Not only will dredging the channel impact the lake's ecosystem," he says, "but the lake itself will impact the channel, as the currents will transport sediment back into the channel very swiftly and very efficiently."

While dredging is part and parcel of maintaining a canal to keep it silt-free, the amount of work that would be required to keep a Nicaraguan canal from silting up would be extremely costly. "I calculate that if the U.S. had gone ahead with their plan to built a canal here in the late 19th century, it would have had to have been rebuilt—not only re-dredged—23 times in the past 115 years," Montenegro-Guillén says.



A fisherman casts a net over the waters of Lake Cocibolca.

PHOTOGRAPH OSWALDO RIVAS, REUTERS



## Chicanery for Panama

In the spring of 1902, as debate flared in the U.S. Senate over whether to choose Panama or Nicaragua for a new canal, an enterprising PR man for the Panamanian lobby planted a story in the press that Nicaragua's iconic volcano, [Momotombo](#), was erupting.

Protests by the Nicaraguan lobby that Momotombo was in fact dormant fell on deaf ears, thanks to [one of the country's postage stamps](#), depicting an apparently lively Momotombo puffing majestically over the jungles near Lake Managua. The Panamanian lobby made sure a copy of the stamp was sent around to every U.S. senator and congressman.

Then, one month before the senate vote, an eruption on the Caribbean island of Martinique killed 30,000 people and destroyed much of the island. That swayed fence-sitters, and Panama won the canal by eight votes.

It was a good call, Montenegro-Guillén says. Nicaragua "is seismically active, and the hydraulic design of the canal, regardless of route chosen, relies on the construction of a dam. The risk of an earthquake collapsing a structure that's holding back 16 million cubic meters of water is quite high. And that would be catastrophic."



A man leaves Lake Cocibolca carrying the fish he caught.

PHOTOGRAPH BY OSWALDO RIVAS, REUTERS

## All in Favor?

Despite the slew of concerns, most Nicaraguans seem to favor the canal. "Almost everybody, in fact, was cautiously optimistic, except maybe the fishermen who were worried for their livelihoods," the University of Konstanz's Meyer says. "And it's easy to understand why. This is a very poor country, and they have been told the canal is going to

bring them jobs and prosperity."

[Adolfo Acevedo](#), one of Nicaragua's most respected economists, warns that the benefits will at best be modest. "It's true that building the infrastructure for such a canal would produce an important temporary boom in economic activity," he writes in an essay titled "The Canal and the Illusion of Development." Offsetting that, he says, is the fact that much of the skilled labor and machinery will need to be imported.

Rice University's Alvarez is equally dubious. "No megaproject can lift Nicaragua out of poverty while its population remains largely uneducated. Investment in education to begin to build a knowledge-based economy is the only credible road to get out of poverty. This will require some international help, as well as financial discipline, transparent governance, and smarter management of our natural resources."

Alvarez says he doubts the canal will ever be completed, mainly because of "unaccounted costs and technical challenges, as well as questionable feasibility."

But he allows that the Nicaraguan government is very motivated to do the project, "despite the poor track record of Wang Jing's companies in terms of meeting expectations."

For Alvarez, the "biggest concern is beginning something that will not be completed, wasting resources, displacing people and wildlife, causing irreparable damage to the environment, and raising false hopes."