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***Is the impact of mining (HEI) in Mongolia beneficial OR detrimental to the society?***

Document 1

**Though Not Yet Open, a Huge Mine Is Transforming Mongolia’s Landscape**

**By KIT GILLET**

KHANBOGD, Mongolia — In the dry expanses of southern Mongolia, a handful of large blue buildings are clustered together, ringed only by a thin metal fence. A single plane sits on an airstrip, while power lines stretch off into the distance. They, along with the scattered flocks of sheep and goats, are almost the only things dotting the vast landscape.

“In the old days, all of the grasslands and valleys had herders and their animals,” said Baanchig Oodoi, 61, who was raised in a herding family and has lived all her life in and around the town of Khanbogd.

“In recent years, herder numbers have gotten smaller,” she said. “Many herders have moved to the town to work for the mining company.”

Even before its scheduled opening next month, the work on the huge [Oyu Tolgoi mine project](http://www.ot.mn/) already accounts for roughly 30 percent of Mongolia’s annual economic output.

The sheer scale of the mineral wealth to be found here — an estimated 41 billion pounds of copper and 21 million ounces of gold — on the dusty edges of the Gobi Desert has long attracted mining executives from around the world. Now, after a decade-long effort, Canada’s [Turquoise Hill Resources](http://www.turquoisehill.com/s/home.asp), in a joint venture with the Mongolian government, is about to start pulling the mine’s riches from the ground.

“This single mining project is one of the main reasons for the amazing economic growth in the country,” said Dale Choi, an analyst at [Origo Partners](http://www.origoplc.com/), a private equity company that advises investors on China and Mongolia.

Mongolia’s gross domestic product grew 17.3 percent last year, and a further 16.7 percent in the first quarter of this year, the latest payoff from the roughly $6 billion spent on developing the isolated site close to the Mongolian-Chinese border over the past few years.

“In terms of the basic infrastructure, there were no decent roads, no electricity, no water, no air transport coming in, and the work force we needed was nowhere near the mine,” said [Cameron McRae](http://www.business-mongolia.com/mongolia/2010/10/11/oyu-tolgoi-llc-appoints-new-ceo/), chief executive of Oyu Tolgoi, at his office in the capital, Ulan Bator, which is about 375 miles from the mine. “Basically we have had to provide everything from scratch.”

The economic impact of Oyu Tolgoi is visible on the streets of Khanbogd, the town nearest to the site. The population of Khanbogd, a frontierlike outpost where most residents still live in traditional nomadic tents, has grown from just 2,000 a decade ago to over 7,000 today, not including the 10,000 workers housed at the mine itself.

The dusty roads are now crisscrossed with cars and vans, as well as the shuttle buses filled with workers traveling from their nearby camp to the mine and back.

Electricity is now available to households for set periods throughout the day, and the mine has promised residents 24-hour electricity soon. Still, life is harsh for many here, with no running water and only five doctors working at the town’s small, one-story hospital, the same number as before the influx of people.

“We are looking at the moment at how we can help develop Khanbogd town so it is something better than it currently is, and somewhere where it is attractive for our employees to live,” Mr. McRae said.

The development is inexorably altering the area, for good and ill.

“The high level of respiratory illness in the southern Gobi is due to the influence of the mining companies, as well as to the influx of people into the region and the subsequent increase in building projects,” said Narantsetseg Logii, a doctor at the Health Sciences University of Mongolia.

In fact, the mine is altering the entire country. Once it reaches full production, which is expected to be in 2018, the operation will be among the top three copper-gold mines in the world and is expected to account for more than a third of Mongolia’s economic output.

“It will be a huge source of employment,” Mr. Choi said, “and will help to improve the living standards of the whole country.”

Some residents in and around Khanbogd fear this nationwide improvement will come at their expense, especially those who continue to herd animals in the dry expanse and who rely, like generations before them, on a delicate relationship with nature.

“We’ve been here for a long time,” said Altangerel Uudeg, 31, a local herder who was in the process of moving her family and livestock away from the area near the mine. “The herds are moving all across the land and so are the trucks. It’s very chaotic.”

“We don’t have much rain here, and all the water is being sucked up by the big mine for their production,” she added. “Our 1,000 sheep are left thirsty.”

Battsengel Lkhamdoorov, 40, a former herder whose animals also once roamed the land the mine sits on, has struggled since being relocated, and he even tried working for the mine at one point.

“We don’t need money from mining,” he said. “What we need is water and land.”

Document 2

**New York Times Video**

**Reasons its beneficial Reasons its detrimental**

Document 3

**Gobi mega-mine puts Mongolia on brink of world's greatest resource boom**

**By Jonathan Watts**

***Coal extraction in 'the last frontier' expected to triple economy by 2020 but will compete with nomads for scarce resources***

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After a 16-hour drive under the piercing blue skies of [Mongolia](http://www.guardian.co.uk/world/mongolia)'s southern Gobi, the first view of the world's newest mega-mine looks eerily like a desert aflame.

Black clouds of dust billow up above the horizon from the pit at Tavan Tolgoi, where a swarm of bulldozers and mechanical diggers have clawed a 70-metre deep gash into the yellow hills.

This resource – thought to be the biggest deposit of coking [coal](http://www.guardian.co.uk/environment/coal) on the planet – is chewed out and transported away to China by a seemingly endless line of trucks that rumble across the plains in a convoy of dust.

Until recently, this area of southern Mongolia was one of the world's last great wildernesses – a cold desert that is home to gazelle, wild ass and herders living a traditional nomadic existence.

Today, however, it is the centre of the planet's greatest resource boom. Some are calling it "the last frontier", others "Minegolia". Whatever the name, this impoverished but remarkable nation in east Asia is on the brink of one of the most dramatic transformations in human history.

The vast opencast pit at Tevan Tolgoi is just the start. Its 6bn tonnes of coal are being partly developed by a local [mining](http://www.guardian.co.uk/environment/mining) firm. Extraction rights will also be auctioned off to overseas bidders, likely to include China's Shenhua, Peabody of the US and a Russian consortium. Whoever does the digging, the ultimate buyer of the fuel is likely to be China, which accounts for 85% of Mongolia's exports.

Other mega-mines will follow. The extraction is expected to triple the national economy by 2020 and propel the living standards of the small, impoverished 2.6 million population into the global middle class, but locals fear it will also devastate an arid environment as the mines suck up scarce water resources, damage the grasslands and necessitate roads and electricity grids that disrupt the migration patterns of local species.

The damage is already evident in the cross-Gobi traffic, where drivers churn up so much dust that some use their headlights in the middle of the day to pierce the gloom.

"Every day, they use 2,000 off-road 100-tonne trucks. There is so much dust in the sky, it looks like a war is taking place," said Enkhbat, co-chairman of the [Mongolian Green party](http://en.wikipedia.org/wiki/Mongolian_Green_Party), who fears unregulated development of the southern Gobi could lead to ecological catastrophe. "The government needs a much more comprehensive plan to protect the environment and respect local communities. This is not just about economics. It is about human rights."

Nomad families in the area blame the mines for dried up wells, shrinking watering holes and clouds of dust that blacken the lungs and stomachs of their animals.

"It makes us cough. Even the animals cough. There is so much dust we can't recognise which animal is which," said Tsevedelger, a 60-year-old herder. "The animals eat the dusty grass. Then humans eat the poisoned animals. Soon it will be impossible for us to stay here."

The next supermine to come online will be Oyu Tolgoi, which is operated by Ivanhoe Mines and Rio Tinto – a UK-headquartered mining multinational. Once it starts operations in 2012, it expects to produce 450,000 tonnes of copper every year for half a century. The total output will be worth about $200bn at today's prices.

The transformative potential of the mining boom was the subject of an international conference in the capital Ulan Bator last month. Officials from the United National Development Programme (UNDP) expressed hope that Mongolia – as a rare democracy in east Asia – could set an example in transparent, environmentally sensitive resource extraction that will benefit the entire population.

"It's very exciting. Mongolia has the potential to do it right," said Ajay Chhibber, UNDP assistant secretary general. "In a way Mongolia is the last frontier. You might have to go back to the Californian gold rush to find anything similar."

But he warned resources can also be a curse. In Nigeria, [an oil boom led to environmental destruction, increased corruption, a widening income gulf and conflict](http://www.guardian.co.uk/environment/2011/aug/04/oil-nigeria-spills-fines-fights).

The signals so far in Mongolia are mixed. Two-thirds of the state's Human Development Fund – which has come from mining revenues – has been spent on monthly cash payments to the population to secure electoral votes. The minister for resources, Zorigt Dashdorj, said there would be a major change in the future, with more money going on health insurance, public housing and education.

Environmental worries also loom large, particularly with regard to water usage rights. Oyu Tolgoi alone plans to use 920 litres of water per second for the next 30 years.

The former herder Dolgor, who now lives in Khanbogd, says the mines are good for Mongolia, but bad for residents of the southern Gobi. "They take too much water. There is not enough left so the herders have to move or sell their animals."

The operators of Oyu Tolgoi acknowledge they have taken surface water until now, which has made them a competitor with the nomads for scarce resources. But from next year, the mine will extract and treat saline water from a fossil aquifer 45km away. Operators say this is not linked to any lakes or watering holes.

"It's very unlikely that there'll be an impact, but we will continue to monitor the situation carefully," said Shea O'Neill, Oyu Tolgoi principal environmental adviser. The water will be recycled under the company's zero-discharge policy. "We're doing just about everything we can. It's the right thing to do and it's good for business. There is not a lot of water in the Gobi. This is a non-replenishable resource so it is in everyone's interests to conserve water. If we don't, we go out of business."

Rio Tinto have pledged to set the highest international standards in minimising the impact on the environment. They plan to build an asphalt road to reduce dust, with underpasses for migrating animals. They have also promised to recycle much of their water. Conservationists have praised their plans for "[biodiversity offsets](http://www.guardian.co.uk/environment/damian-carrington-blog/2011/jan/25/price-nature)" to make-up for the damage to nearby eco-systems and wildlife.

But, even if successful, fresh threats will come from the numerous other mines, roads and electricity transmission lines that are being planned in the region.

"How much can an ecosystem take until it collapses? We don't know enough yet about the Gobi to answer," he said. "At the moment, it is all piecemeal, mine by mine, project by project. If they carry on down that road, there will be a lot of problems ahead."

Despite Mongolia's democratic system, concerns about corruption, inadequate consultation and weak oversight persist.

"There is really no enforcement of regulations. The mining companies can do what they want," said Keith Svensson, a landscape management specialist based in Ulan Bator who expects increased water stress and habitat fragmentation in the South Gobi. "These corporations have a track record. I don't think they are going to operate any differently in the Gobi."

Rio Tinto's influence is growing. Along with Ivanhoe, it expects to invest $16bn over 30 years in the Oyu Tolgoi project. The company's headquarters in Ulan Bator is one of the biggest buildings in the capital. Its advertisements run constantly on local television channels and it will be a leading sponsor of the country's Olympic team in London next year.

It remains to be seen whether it will prove a force of the good in Mongolia. But nomads fear the worst.

"I have seen Oyu Tolgoi grow bigger and bigger. When it started, it was just one tent. Then three, then 10. Now look at it. They are even taking our grasslands to build a new airport," said Byunjargal, the matriarch of a nomad family that had herded Bactrian camels and cashmere goats in this area for generations. "In the future. There will be more dust and less water. It will be impossible for us to stay here."

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