

Afghanistan's Copper Conundrum

Cheryl
Benard &
Eli
Sugarman*

Abstract

Behind the violence and chaos of Afghanistan's revived insurgency and governmental corruption stands the uncertainty of a fragile economy. The vast majority of commerce in Afghanistan – roughly 95% of its GDP according to World Bank figures -- is linked to the international military presence. Sustainable economic growth is critical for the future of this beleaguered country.

Historically, farming and transit – the Silk Road – have been two of the long-standing pillars of the Afghan economy. To this we can add mining and tourism as two industries holding the promise of economic growth and revenue generation. Afghanistan possesses considerable mineral wealth that might, with good management and over time, contribute to the country's development. Unfortunately, in the rush to develop the country's first and largest mining project at Aynak, Afghanistan is jeopardizing not only its economic future but also its unique heritage.

Moreover, no environmental impact assessment has been conducted regarding the mine's impact. Aynak sits on top of Afghanistan's principal water supply, in one of its premier agricultural areas, and in close proximity to the capital.

A prominent group of archeologists, mining engineers, and environmental experts has voluntarily studied the situation and put forward a plan. But in panicked, inexperienced Afghanistan, and among the international community rushing for the exits, will anyone listen?

* Dr. Cheryl Benard is President of the Alliance for the Restoration of Cultural Heritage (ARCH), a non-profit organization dedicated to the protection of endangered cultural heritage sites. Eli Sugarman sits on the Board of ARCH and is a Truman National Security Fellow. ARCH recently convened a group of mining, archaeological, and environmental experts to study Aynak. Its report is available at: www.archinternational.org.

Behind the violence and chaos of Afghanistan's revived insurgency and governmental corruption stands the uncertainty of a fragile economy. The vast majority of commerce in Afghanistan – roughly 95% of its GDP according to World Bank figures -- is linked to the international military presence. Many Afghans – ranging from truck drivers to security guards to bottled water factory workers – are dependent on it for their jobs and now face a very uncertain future. At the July 2012 Tokyo Donors' Conference, \$16 billion dollars was pledged in hopes of keeping the Afghan economy afloat. But this is at best a temporary fix. Sustainable economic growth is critical for the future of this beleaguered country.

It sounds like a pipedream in a landscape of governmental waste and suicide bombs. But in fact, mining is an example of an industry that holds the promise of economic growth and revenue generation. Afghanistan possesses considerable mineral wealth that might, with good management and over time, contribute to the country's development. Estimates place the value of Afghanistan's copper, iron, Rare Earth Elements, lithium, and other mineral deposits at more than \$1 trillion dollars.

But while the country has significant mineral deposits, it also has near-zero experience in mining. Because of the lack of infrastructure and trained professionals required to manage

Many Afghans – ranging from truck drivers to security guards to bottled water factory workers – are dependent on it for their jobs and now face a very uncertain future.

complex and large projects, it would have made sense for entrepreneurs to start with modest projects, gain experience, begin to generate an income stream, train key personnel, and gradually expand. Instead the first contract—a 30-year lease-- went to the Metallurgical Corporation of China (MCC) a Chinese mining consortium, giving them the rights to one of the largest copper deposits in the world at Aynak, 25 miles south of Kabul in Logar Province. This \$3 billion project is the largest foreign investment and business venture in Afghanistan's history and spearheads China's ambitious effort to monopolize Afghanistan's natural resources.

Mining in Afghanistan

Afghanistan has had mixed success developing its mineral resources to date. The Aynak copper mine and the Hagjikak iron deposit in Bamiyan Province are the country's largest projects, won by Chinese and Indian companies, respectively. Several other smaller mining efforts, including a gold mining project backed by JP Morgan are also underway. Security concerns are paramount in investors' minds, as are the lack of electric-

Afghanistan has had mixed success developing its mineral resources to date. The Aynak copper mine and the Hagjikak iron deposit in Bamiyan Province are the country's largest projects, won by Chinese and Indian companies, respectively.

ity and key infrastructure (road, rail, etc.).

The country has made some progress updating its mining laws, but in late July 2012, the Afghan Cabinet surprisingly rejected a new Minerals Law that would have promoted foreign investment and improved transparency and accountability in Afghanistan's extractive industries. Afghanistan's Minerals Law was enacted in 2005, but then significantly amended by the Ministry of Mines in 2009. Those amendments reduced investor interest and led the Ministry –under new leadership in 2011/2012 – to draft a new law, in coordination with the Ministry of Justice and other relevant ministries.

It is unclear how the new law would have impacted Aynak because the mining contract between the GOA and MCC has never been publically released, and nor has the proposed new draft law. This lack of transparency pervades Aynak operations. MCC has begun some basic site preparation, but has since elected to

halt its preparatory work. Over the years, various start dates have been mentioned, with mid- 2013 being the most recent. But press reports indicate deteriorating security around the mine site, and the departure of most of the Chinese workers due to security concerns.

More importantly, mining is technically complex and MCC has not yet initiated let alone completed many of the necessary preparatory surveys and work at Aynak. Assuming a mine capacity of 200,000 tons, it will take at least until late 2015 and possibly until 2018 to begin mining, according to experts. And the mine will not reach peak capacity until 2023. Aynak could well generate over \$100 billion dollars in revenue over its lifespan – if planned and managed properly – but those funds will not start flowing for several years.

China's Role in Afghanistan

Chinese engagement with Afghanistan is focused almost exclusively on commercial relations. Since the fall of the Taliban in 2001, the Chinese government has contributed only \$20 million dollars per year (roughly \$230 million total) to Afghanistan's reconstruction. This small sum is a clear indication of China's desire to focus on commercial ties in contrast to the West's larger scale security and development focused engagement.

Since the fall of the Taliban in 2001, the Chinese government has contributed only \$20 million dollars per year (roughly \$230 million total) to Afghanistan's reconstruction.

To date, China has been the country most active in Afghanistan's extractive industries. Not only does a Chinese consortium hold the Aynak contract, but the China National Petroleum Corp. (CNPC), one of the largest state-owned Chinese companies, won Afghanistan's first oil and

To date, China has been the country most active in Afghanistan's extractive industries.

gas tender in 2011 for the Amu Darya basin in northern Afghanistan. That tender was for a small resource basin that consists of five known fields that hold an estimated 80 million barrels of crude oil (roughly 11,000 barrels per day over 20 years). However, China's ambitions are big. It is actively seeking control over Afghanistan's natural resources – just as it has done throughout neighboring Central Asian countries – to help meet its ever-growing demand for hydrocarbons and minerals. It routinely makes geopolitically-driven resource investments through state-owned companies and outbids its commercially-driven Western competitors. But higher government revenue from more generous Chinese commercial

terms often comes at the price of decreased transparency, importation of Chinese labor to the exclusion of local workers, and use of older, less environmentally friendly technology, among others.

In September 2012, China sent its highest ranking delegation in nearly fifty years to Afghanistan. It was led by Politburo Standing Committee member, Zhou Yongkang. The visit culminated in the signing of several security and economic agreements, including agreement by Beijing to fund the training of several hundred Afghan National Police officers. Unsurprisingly, the visit also focused on China's continuing interest in Afghanistan's extractive industries and promoted further opportunities for Chinese mining and oil and gas companies in Afghanistan.

Cultural Heritage and Tourism

The stakes at Aynak are hard to overstate. Atop the mine is Mes Aynak, a cultural heritage site of immense importance that includes an array of over twenty ruin sites, including several 4th to 8th century Buddhist monasteries, ancient fortifications, and rare Bronze Age remnants. The site also sits above two major aquifers and abuts agricultural areas and population centers, most notably Afghanistan's capital and most populous city, Kabul.

Several archeologists have described Mes Aynak as a potential Pompeii, if excavated and preserved. The site's history spans from the Bronze Age through the Buddhist era, and up to the early Islamic period. It is of special interest because it contains residential and commercial areas of a sprawling Buddhist era city, not just temples and monasteries. Early technology and society unfolded for over 5,000 years at Mes Aynak and the site is known to contain coins, glass, wooden elements, tools, and many artifacts, including manuscripts that may date from the time of Alexander the Great. Shockingly, all of this is scheduled for destruction, with the archeologists continually working in three or six month segments, told they are about to be evicted, then granted another brief stay. The current deadline is mid -2013, with the January start date of mining once more pushed forward by six months.

Geographically, Afghanistan and Mes Aynak represent a central point along the ancient Silk Road, whose culture was shaped by three civilizations - China, India, and Iran. This location provides great value in terms of art and architecture and the influences of these great cultures. During antiquity, Mes Aynak and greater Afghanistan were already centers for both copper and silver mining. In addition to the precious coins, jewelry and metal works recoverable at Mes Aynak, this site also presents a significant opportunity to learn about

Geographically, Afghanistan and Mes Aynak represent a central point along the ancient Silk Road, whose culture was shaped by three civilizations - China, India, and Iran.

the development of ancient mining technologies.

Recent excavations inside one of the monasteries discovered walls covered in early paintings of ancient life, including styles of dress from which conclusions can be drawn about pat-

Preserving Mes Aynak is not just an abstract scientific ideal – the site is also a source of potential economic development in the form of tourism.

terns of migration and cultural influence. Many images and statues were found to be painted in gold, an indication of the wealth of the Mes Aynak area. Additionally, a large number of stupas, the dome-shaped monuments usually containing Buddhist relics, were discovered. Those on the surface had been previously looted of the relics inside, but the archeologists believe that many more remain underground, still intact.

The current mining plan, however, allows only for only minimal salvage archeology and will destroy the site and everything still buried beneath it,

either directly or as a consequence of vibrations from mining detonations. MCC has demanded that archeologists be given a short period of time to operate on site and then depart.

Preserving Mes Aynak is not just an abstract scientific ideal – the site is also a source of potential economic development in the form of tourism. In the 1960s and 70s, Afghanistan was a popular tourism destination. The Bamiyan Buddhas in particular attracted visitors until their destruction by the Taliban. Mes Aynak, with its proximity to the capital and easy accessibility by road, could be key in re-establishing tourism as a central sector of the economy if and when political stability is achieved.

Environmental Risks

It is difficult to fully describe the environmental risks associated with Aynak because no Environmental Impact Plan for Aynak has yet been developed or published, in violation of World Bank rules, Afghan law and international best practice. Because Mes Aynak is located only 25 miles from the country's densest population center and above two of its largest aquifers, the environmental risk is immense.

Copper mining is often conducted through the creation of a large open-pit mine. The extensive blasting and use of large quantities of highly toxic industrial chemicals produce heavy metals that leach into the soil and

water supply. It is also very water intensive because water is needed to cool machinery and ore. As a result, copper mines pose public health risks and are very difficult and costly to clean up. There is no indication at present that any mine closure plan is in place to account for disposal of the extremely large quantities of displaced earth and rock or the toxic sludge and soil that will stay behind, or that any emergency mitigation plan exists in the case of a bad result from the intended mining techniques.

The massive quantities of water needed for copper mining can deplete groundwater, dry up rivers and wells, and harm irrigation and farming networks. To mine one ton of copper, 100 tons of soil need to be removed from the land. This will distort the meteorological balance of the area and increase the risk of landslides, reduce soil fertility, and expose to the air heavy minerals and naturally occurring radioactive metals. Heavy metals can leach into ground and surface water, endanger nearby fisheries and make the water toxic for human consumption. Mining activities could also contaminate water, air, and food for nearby populations, including in Kabul. The increase in heavy minerals and metals can lead to increases in asthma, lung disease, brain damage, and cancer as well as increased rates of mortality and morbidity, particularly among children and the elderly.

The risks facing Afghanistan are dramatized by the now-abandoned Berkeley copper mine in Butte, Montana, once the most valuable mine in the U.S. It is now an enormous open pit filled with an estimated forty billion gallons of acidic, metal-contaminated water. Any visitor to the site must first complete a 40-hour training session on hazardous materials, and workers must enter the water in fiberglass boats because the water can dissolve aluminum. The mine was only closed after studies in the 1940s began to document how the mine was causing cancer, mental retardation, and birth defects in surrounding areas. Mitigating this environmental disaster was beyond the abilities of local government or industry, so the federal government was forced to establish a Superfund Trust, and has since spent billions of dollars cleaning up the mine.

Afghanistan's Environmental Protection Agency has even less capacity and resources than the Ministry of Mines, and is unable to evaluate let alone help mitigate these risks. It has not been given a voice in decision-making and ensuring a comprehensive Environmental Impact Assessment for Aynak is completed.

The Solution

The good news is that archeologists, mining engineers, and environmental experts believe it is possible to balance the competing interests of envi-

The risks facing Afghanistan are dramatized by the now-abandoned Berkeley copper mine in Butte, Montana, once the most valuable mine in the U.S.

ronmental safety, heritage preservation and mining, and ensure Afghanistan maximizes its benefits from the Aynak copper mine. But to do so, the Afghan government, the MCC, and the World Bank must be transparent and the three stakeholder communities must work together, share information, and be as open as possible towards each other and the public.

Recently, MCC froze all work at Aynak, thereby providing the perfect opportunity to adjust course. Several steps are urgently needed at Aynak:

First, salvage archeology on the site must stop immediately. Salvage archeology actually destroys a site by hastily removing anything that is transportable, including portions of frescoes, columns etc. – this is essential demolition archeology, appropriate only when there is no alternative. This is the case, for example, when a construction project in the middle of a modern city unexpectedly happens upon ancient artifacts. That is not the case here. According to neutral experts who have studied the data, conventional archeology can readily be conducted here without obstructing mining operations. Mining cannot begin for several years anyway, so

there is no rush. It is one thing to face an actual decision point, and to be obliged to make a painful choice between culture and commerce. There is no reason to make the decision to sacrifice cultural treasure without first checking the facts when the sacrifice is objectively not necessary.

Second, an Environmental Impact Assessment must be conducted urgently, by international experts and the Afghan government. The assessment is acutely needed because the environmental risks are so high: Aynak sits on top of Afghanistan's principal water supply, in one of its premier agricultural areas, and in close proximity to the capital. It is not only illegal, but also dangerous to open a copper mine, a particularly pollution-prone form of mining, without first carefully studying its environmental impact.

Third, the local community in areas surrounding the mine must be engaged and given a voice in decision-making. To date, civil society has been almost entirely excluded from the process and denied basic information about the mining plan. This mistake is already being felt in the form of deteriorating security and attacks on the site. The hasty relocation of some of the local populace and the failure of the Ministry or MCC to care for some local workers who were badly injured when they encountered unexploded ordinance, has further exacerbated matters. A new high-level

coordination mechanism between the Afghan government, MCC, World Bank, and the local community, with support from a neutral group of professionals with specific subject matter expertise and experience, is badly needed. Such a mechanism would maximize the chances of a good outcome, whereas the present secretive approach, violating laws and norms, carries the risk of yet more bad news from Afghanistan.