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Mining in the Philippines

Revisiting the Rim

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The Philippines: an Overview

Fits and starts and false departs.

The mangrove forestation, part of CNC's commitment to environmental sustainability. Photo courtesy of CNC.

At the Gold of Our Ancestors exhibition in Manila's Ayala Museum, more than 1,000 recovered gold artifacts illuminate the civilizations that flourished before the Spanish colonization of the Philippines.

The 7,107 islands of the Philippines skirt the western fringe of the Pacific ring of fire, where volcanic activity mineralized much of the country: copper-gold porphyry systems abound under its surface and nickel laterites crowd its tropical soils. "With over 200 inactive volcanoes—not to mention the unknown number that have eroded—there is no telling what else is waiting out there," said Dr. Carlo A. Arcilla, director and professor of CP geology at the University of the Philippines.

Mineral deposits, including copper, gold, nickel, chromite, limestone and semi precious stones are believed to exist in abundance in the Sierra Madre mountain range in Luzon and in the Mindanao region. Gold and copper deposits lie under Mt. Diwalwal in the Compostela Valley in Central Mindanao, Benguet in Northern Luzon and at Rapu Rapu island in Bicol. The provinces of Mindoro, Benguet, Zambales, Nueva Vizcaya, Cebu and Leyte also teem with minerals.

The Philippines is amongst the most mineralized countries in the world; The Mines and Geosciences Bureau (MGB), under the Republic of the Philippines Department of Energy and Natural Resources (DENR) estimates that the archipelago contains more than $840 billion worth of untapped mineral wealth.

In 2011, The MGB listed just 34 producing mines in the Philippines and, although illegal mining extends the actual number significantly beyond this, the Philippine mining sector is startlingly small. In 2011 the gross production value for metallic minerals was PhP122.58 billion ($3 billion), of which PhP63.14 billion ($1.6 billion) came from gold production. Worryingly, for a country whose marquee mines are nearing the end of their life spans, investment in the sector fell by 35% in 2011 according to the MGB.

The Philippine mining industry is beset by political uncertainty and contends with wide spread civil anti-mining sentiment. "There are literally thousands of NGOs working against mining here, including religious organizations and local government units that act like NGOs," said Leo L. Jasareno, acting director at Department of Environment and Natural Resources (DENR), Mines and Geosciences Bureau.

Of the Philippines' 80 provinces, 14 had promulgated ordinances, such as open-pit mining bans, that contravene the country's mining act. As of September 2012, a further six provinces and two cities were asking for a law to ban mining in their areas.

In January 2011, President Aquino imposed a moratorium on the processing of all new mining agreements and cancelled over 500 existing applications. In formulating a new mining regime, the government hopes to stimulate investment, increase its share of revenues from mining operations, tackle illegal mining, and protect environmentally sensitive areas. Currently, reforms to the mining law are still ongoing, and more than 1,000 applications for new mining contracts remained on hold. The massive discrepancy between mineral potential and its exploitation reflects the highly complex relationship between the mining industry and Philippine society.

Estimated value of Philippine mineral reserves, US$ Bn

Mineral	Tons (Mn)	Average Grade*	Value (US$ Bn)
Gold	3869.0	2.68	367.0
Copper	5051.0	0.90	318.0
Nickel	783.0	2.62	328.0
Chromite	38.0	24.55	1.0
Iron	483.0	42.05	103.0
Manganes	3.0	45.31	0.1
Aluminum	434.0	27.50	263.0
Zinc	11.4	2.66	1.0
Molybdenum	306.0	0.08	6.0
Total			**1367.0**

* grade values are shown as a percentage, with the exception of gold (g/mt)

Source: ANZCHAM

Wealth and Poverty: The Price of Gold

The Philippines' current macro-economic progress is encouraging. The country coped well with the global financial crisis and, after sluggish 2011 growth of 3.7%, Philippine GDP grew by 6.6% in 2012.

But nine years of consecutive GDP growth has not resulted in significant improvements to the lives of Filipinos.

In 2010, the Joint Foreign Chambers (JFC), a partnership of international chambers of commerce in the Philippines, compiled a study on economic conditions across the archipelago. "Growth in the Philippines has not been inclusive," the study found. "By contrast, Malaysia and Thailand, with comparable GDP growth rates in the decade but lower population growth rates, have nearly eliminated their lowest cohort of poverty."

The Philippines has one of the world's most rapidly growing populations and economic growth must happen more rapidly to significantly impact the country's Per Capita Index (PCI.)

There are multiple contributors to low PCI, but the Philippines' poor record of attracting foreign investment is certainly among them. Once considered the darling of Asia by foreign investors, Foreign Direct Investment (FDI) as a percentage of GDP was lower in the Philippines than in any of the other ASEAN six between 1990 and 2009. While the Philippines has undergone a recent boom in business process outsourcing, lagging FDI is particularly apparent in the mining sector. In 2011 the IMF attributed only 1.5% of Philippine GDP to mineral production and exports of minerals have averaged just 3.7% of the country's total overseas sales since 2007. The Philippines missed its 2011 mining investment target of $1.44 billion due to the deferred development in major projects, reaching only $618.5 million from ongoing developments, such as in the Surigao Sumitomo HPAL project, the Didipio copper-gold project, and the Siana and Runruno gold projects.

New project investment would contribute massively to national coffers. If developed, it is estimated that Xstrata and Indophil's copper-gold Tampakanproject alone would contribute an average of US$2.8 billion per year to the Philippine GDP; an equivalent of 1% annual increase to Philippine GDP over the life of the project.

More pertinent still is the impact major projects could have on local economies. Some of the Philippines most poverty stricken areas sit atop the country's richest mineral reserves. In some cases heavy mineralization renders the land unarable—rice doesn't grow on lateritic soil, for example—and there are few alternate sources of income for the populace.

Beyond direct employment, excise tax, royalties paid to Indigenous peoples, and social programs mandated by the Philippine Mining Act of 1995, responsible mining companies invest in infrastructure and create avenues for indirect employment.

Established in 1903, Benguet Corp. pioneered modern mining in the Philippines; throughout its history Benguet has built 230 km of road, 80 bridges, 180 km of tunnels, seven earthen dams, 110 classrooms, five hospitals/dispensaries with a total of 500 beds, and 50 day care centres.

"Mining itself is not the only solution," says Philip Romualdez, president and CEO of Benguet Corp. and president of the Chamber of Mines of the Philippines. "Every economy needs catalysts for growth, the question really is where are the catalysts? Industrial development and growth gives people a sense of accomplishment, where they are intellectually and spiritually challenged to do more for their country than earn a basic wage."

The Foreign Technical Assistance Agreement

The constitutionality of foreign mine ownership

The Philippine Mining Act of 1995 remains the central legislation for mining in the Philippines and is the basis from which the government will work when setting out the new mining regime. Modelled on the regulatory regimes of Canada and Australia, the act includes various measures to protect the environment and defines areas in which mining can and cannot take place. It sets the parameters of the fiscal regime under two different mining contracts; the Mineral Production Sharing Agreement (MPSA) and the Foreign Technical Assistance Agreement (FTAA), the latter of which permits 100% foreign ownership of mines.

The Philippine Mining Act of 1995 might have provided the impetus for the resurgence of mining, however controversy and political flip-flopping have long been a facet of the industry.

Through the early 2000s, government officials even questioned the constitutionality of foreign mine ownership. An idea attorney Leo Dominguez attributes to misguided notions of nationalism. “Why do we not address the existing inequality in our country by redefining nationalism as providing roofs over our heads, food on our tables and clothes on our backs? To me this would make greater sense than staying married to the archaic notion that nationalism is about who owns the land and who can exploit our natural resources,”said Dominguez. “The answer lies under our feet; poverty eradication, responsible mining: connect the dots.”

Case Study: Executive Order 79 and the Tampakan Project

In July 2012, President Aquino released the long awaited Executive Order 79 (EO79), which was to set the parameters for the country’s new mining policy.

Initially at least, EO79 was greeted warmly by the mining industry: “The government has recognized that some anti-mining voices need to be heard, but they have not kowtowed to them. They have listened to the concerns of local governments, essentially over whether the benefits of mining investment will accrue to them quickly, and have said that they will address these concerns. At the same time, the government is re-emphasizing the primacy of national laws over local ordinances, which will be beneficial to projects of great importance to the Philippines such as Tampakan,” said Philip Romualdez upon the release of Aquino’s order.

The Tampakan project in South Cotabato, operated by Sagittarius Mines (SMI), a joint venture between multinational Xstrata and Australia’s Indophil, is one of the largest and most exciting copper-gold deposits in the world. If it is allowed to proceed, some $6 billion will be invested in the project, constituting the largest foreign investment in the Philippines’ history.

The significance of Tampakan, however, transcends both geological potential and economic implications; Tampakan has become a focal point for the global mining community, looking for assurance that

Interview with Attorney Leo Dominguez, president of Resource Advisors People Solutions Philippines Inc. and co-writer of the Mining Act.

What caused civil society to rally against mining and what effect has this had on the government's mining policy?

After the MarCopper accident of 1996, the government, which was actively promoting mining, came under serious fire from civil society. It is important to recognize there are over 80,000 NGOs operating in the Philippines, the most powerful of which is the Catholic Church. When rallied around a cause, these NGOs can impact virtually any issue in the country in a big way. In two successive governments Congress would not confirm pro-mining officials and some government officials even openly questioned the constitutionality of FTAAs and the Mining Act. Essentially encouraged by the government to challenge the law, many anti-mining groups brought their cases to court. While these cases were pending, the newly installed president, Gloria Arroyo, articulated that the policy of the government was to be merely tolerant towards mining and not to actively promote it. By 2004, President Arroyo was convinced to change course and signed a new executive order clarifying provisions in the Mining Act of 1995. However, the victory was short lived as a week later the Supreme Court deemed FTAAs unconstitutional and all provisions in the Mining Act of 1995 that related to FTAAs null and void. With all these mixed signals from the government, foreign firms fled the country.

The Supreme Court reversed its decision that FTAAs and provisions of the Minerals Act of 1995 relating to FTAAs were unconstitutional later in 2004. What were the implications for mining in the Philippines?

The Supreme Court decision was the first time in Philippines history where you have three cornerstones of our government saying yes to mining: the legislature which passed the law in 1995, the executive which issued a national minerals policy, and the judicial which had reaffirmed the FTAA and the Mineral Act of 1995 as constitutional. Seeing this, foreign investors brought their business to the Philippines and we witnessed a six-year boom in mining investment from 2004 until 2010.

What were the arguments of the legal opponents to the mining act in the Supreme Court?

Legal challengers tried to argue to the Supreme Court that the allocation of national resources should be defined by the 1935 Constitution, which allows for only 40% ownership by foreign companies. They argued it was unpatriotic to give our nation's natural resources to foreigners. However, they forgot that Filipinos did not write the 1935 constitution! The Americans wrote it.

Alan Blackley, managing director and CEO, Quest Exploration Drilling (QED).

the Philippines is a viable investment destination. "If Xstrata fails to make headway with Tampakan, it is an indictment of the president in my opinion, because the project could do so much for the country," said Alan Blackley, managing director and CEO of Quest Exploration Drilling (QED), who conducted the drilling at Tampakan.

Discovered in 1992, Tampakan has encountered multiple obstacles in its development. The incipient mine has been attacked by members of the New People's Army (NPA) and an indigenous tribe belonging to the Blaan community; mine workers, drilling contractors, security personnel, and anti-mining campaigners have been killed in clashes. The permitting process of Tampakan has also been stalled by local political objection to the project. Having approved SMI's Environmental Impact Statement (EIS) for Tampakan, the DENR denied the company's application for an environmental compliance certificate because of a ban placed on open-pit mining by the local government of South Cotabato.

"From a safety perspective, from an environmental perspective, and from an economic perspective an open-pit mine is the only way that makes sense," Gavan Collery, vice president corporate affairs at Indophil Resources NI said. "The denial of our ECC is entirely politically based. The Local Government Unit in South Cotabato placed a ban on open-pit mining and the DENR used this ban as a basis to reject our ECC. In cases like this the policy of the national government is supposed to override local ordinances. However, the denial of Tampakan's ECC was pressured by anti-mining and anti-foreign investment groups. It had nothing to do with environmental management," Collery said.

Political opposition to Tampakan has been exacerbated by idealogical resistance. "There are petitions and resolutions to amend the local law pending," South Cotabato governor Arthur Pingoy told Bloomberg News in 2012, "[However,] no one dares touch them because they fear a backlash from the Church, with priests campaigning against their re-election next year." Local Bishop Binualdo Gutierrez, who leads the Catholic Church in South Cotabato and Saranggani appeared to confirm this, "We will surely vote against those who favor this project" he told Bloomberg News.

The Catholic Church is a formidable political force in the Philippines, and The Catholic Bishops Conference of the Philippines (CBCP) has adopted a firm anti-mining stance. The CBCP criticized Aquino's EO79, describing it as a palliative that does not address fundamental problems with the existing mining law and calling for a moratorium on the implementation of the EO.

The persisting uncertainty over Tampakan came to an end late February this year with the granting of an ECC. Nonetheless, the delay in receiving this, combined with the conditions attached to its granting; consent from occupants of ancestral domain, land access permits from the Department of Agrarian Reform, endorsement from local government units, and continuing liabilit for environmental damage; means that there is still some way to go before project realisation is assured.

Illegal Mining in the Philippines and the Black Market Economy

On January 5 2012, 36 miners were killed in the gold-rich Compestela Valley of the Philippines after heavy rainfall triggered a landslide. Although the government had previously ordered the miners off the land due to safety concerns, the miners returned once they recognized the order was not being enforced.

Such events occur with tragic regularity in the Philippines, where small scale and often illegal mines operate outside of standardized safety and environmental practices.

Louie R. Sarmiento, president at Philippine Mine Safety and Environment Association (PMSEA) stated that Filipinos are inevitably drawn to small-scale mining because of their dire economic situation. "These miners do not have any other economic means. They would rather risk their lives mining than go to the lowlands and have no way of supporting themselves," Sarmiento said.

As demonstrated by the landslide in Compestela Valley, local government units (LGUs) do not have the resources to ensure worker safety at small-scale mines. Leo Jasareno, points out that condition on small-scale and illegal mines can be inhumane, with workers often handling mercury

Louie R. Sarmiento, president at Philippine Mine Safety and Environment Association (PMSEA).

with their bare hands. The harsh conditions on these mines and the environmental degradation they cause hurts the reputation of the industry as a whole. Images of landslides and inhumane working conditions resonate with many Filipinos. "If you are a man on the street and see the indiscriminate operations of illegal miners, and you cannot differentiate their mess from that of a legitimate operation, then of course you will resent mining," said Leo Jasareno.

Previously LGUs issued permits for small-scale mining provided where no explosives or heavy equipment were used, per annum output did not exceed 50,000 mt, annual capital expenditure did not exceed $250,000, and the mine site was under 20 hectares in size. E079 now limits mining to pre-designated areas known as People's Small-Scale Mining Areas. According to Jasareno: "The strategy is not to stop them or eradicate them, but to legalize their practices with permits and to identify these exclusive small-scale mining zones."

The MGB estimates that as many as 80% of the miners in the country were working under improper permits before the executive order was signed. Now the MGB is charged with the daunting task of closing those outside these zones and bringing those within these zones up to proper standards.

The continued existence of illegal mines highlights a lack of transparency in government and the conflict between the national government and LGUs. According to Leo Dominguez, co-author of the Mining Act of 1995: "Many small-scale mines have grown in size and sophistication; they now use all the same drilling, blasting, and other extraction equipment that big mines do."

This widespread occurrence received media attention when the government confiscated $2.5 million-worth of iron ore illegally bound for China on June 21. Without the ability to receive a permit from Manila due to the Aquino administration's moratorium, these mine operators would rather bribe local officials and smuggle minerals out of the country than go through the proper channels. LGUs, are implicated in corruption because of the continued existence of illegal mines in their jurisdictions. In the aforementioned iron-ore smuggling incident, Governor Eduardo Tallado of Camorones Norte has since been probed for allegedly accepting bribes in return for his "blessing" of illegal mines. In some instances, illegal miners have colluded with local governments in an attempt to force legitimate mining operations from mineral deposits.

"Illegal miners play dirty; they integrate themselves with various vested interests that have the capability to make life very difficult for an operating company. TVI has had to contend with this continuously at our Canatuan project," said John Ridsdel, president at TVI Minerals Processing, Inc. told us. "In order to continue to operate, [illegal miners] have to direct a flow of funds through local political authorities and law enforcement authorities. These operations are well-financed and very difficult to stop; the people concerned either eventually get themselves elected to office, or persuade the elected officials to participate in the plans."

Clyde Gillespie, director of environmental permitting, SAGCL.

Small scale mining in the King-king tenement near Pantukan in Compostela Valley, Mindinao Island. Photo courtesy of SAGLC.

TVI Resources, which operates the Canatuan mine in the Zamboanga Del Norte province of Mindanao has won plaudits for its responsible mining practices including the Platinum Presidential Mineral Industry Environment Award and the Safest Surface Mining Operation at the 2012 Presidential Mineral Industry Environmental Awards. The company provides jobs for around 700 people, more than half of whom are local and more than 25% of whom are indigenous people. Nevertheless, TVI has had to contend with a litany of attacks from illegal miners including violence, destruction of equipment, and spurious accusations of criminal activity. In November 2011, the LGU passed a local ordinance against open pit mining that the company later overturned in court. “Even with the community on board, challenges remain,” said Ridsdel. “It is quite possible that you are going to encounter local government officials that have a vested interest in keeping illegal mining operations going.”

In some ways it is understandable that local officials turn to corruption: they see little financial benefit from legal mining. Mines with proper permits must pay their taxes directly to the national government, which is then supposed to appropriate 40% of this revenue to the LGUs. However, LGU’s complain that they belatedly, if ever, receive these funds.

Based on a study funded by the Extractive Industry Transparency Initiative it takes a minimum of three years for local governments to get their entitlement of taxes paid from the national government. “When you consider our political system, this is especially significant: local officials are elected for a term of three years. If you are a mayor or a governor you can say that mining is good, but your constituency will not see the economic impact, at least not while you are in office,” said Jaime del Rosario, head of mining and metals at SGV & Co, Ernst & Young.

President Aquino has made anti-corruption a cornerstone of his administration. The investigation of Governor Tallado is a promising step in the right direction. Additionally, there are several bills currently proposed in Congress that would increase transparency in revenue collection and distribution by allowing LGUs to directly collect their share of taxes from miners. Although there is apparent support for this idea, these bills are still in their nascent stages and it is unclear if this provision will be included in the final bill Congress presents Aquino for approval.

Case Study: Forging Effective Relationships with Small Scale Miners in Mindanao

The King-king gold and copper project in Pantukan is situated in the depths of Mindanao’s Compostela Valley Province. Operated by St Augustine Gold and Copper (SAGCL) and currently in the permitting phase, King-king is one of the largest undeveloped copper-gold deposits in the world and listed as a priority project by the Philippine Government.

The mineralization of the Compostela Valley has drawn large numbers of small scale miners to the area. “As near as we can tell, there are between 500 and

Support to rice planting. Photo courtesy of Philsaga.

Samuel Afdal, president, Philsaga.

1,000 small-scale miners working in the area where we want to mine," said Clyde Gillespie, director of environmental permitting at SAGCL. The company requires approximately 4,000 workers during construction and 2,000 workers for operation, so it is well within SAGCL's capacity to provide alternate employment for the entire community of small scale miners. "Some of the small-scale miners believe that our project will affect them in a negative way, and we are addressing that through education and continuous communication with the leadership of the small-scale miners. Very few people locally read newspapers, so we actually built a radio station to get our message out."

SAGCL's work at King-king demonstrates that forging successful working relationships with local small scale miners can be mutually beneficial: the company is collaborating with the Technical Education and Skills Development Agency (TESDA) on training programs to up-skill the local workforce, small scale miners benefit from improved safety and labour conditions, and the local community benefits from the proper management of mine waste, and the cessation of unchecked mercury use. "Some [of the locals] will want to keep small-scale mining, and for them we will identify areas within the tenement where they can mine. We will have them bring the ore to us for processing, which allows us to responsibly manage the tailings," Clyde Gillespie told us. "In addition to training our workers, we will train a larger pool of people in Pantukan, providing accredited programs for various trades such as welding, pipefitting, and electrical work. Maybe they will work for us, maybe not; either way, we see it as beneficial for the community to learn new skills," said Gillespie.

SAGCL's Mindanao neighbour, Philsaga, has also endeavoured to build strong working relationships with local communities. The Co-O narrow vein underground gold mine, originally developed in the late 1980's and now operated by Philsaga Mining for Australian firm Medusa Mining Ltd. (MML) has quietly become one of the Philippines lowest cost gold producers.

The project was beset by permitting problems arising from a conflict with a local logging company and written off by many as unviable when it was acquired by MML. Drilling, which commenced in late 2004, intersected the vein system on the east side of the Oriental Fault.

"When we drilled, the further we went down, the vein became wider and the grade increased to more than 1 oz/mt, and suddenly, the project became viable," Philsaga's president Samuel Afdal said. The mine, which has been in re-development since 2011, produced 60,595 oz of gold during the financial year ending June 2012. "I believe we can hit our target of 160,000 to 200,000 oz/y within the next two years if we develop the mine properly," Afdal said.

In conjunction with sustained large investments in exploration, Philsaga has investments in the local community, particularly focussed on improving educational opportunities. Philsaga has adopted 14 elementary schools and built a new high school, paying for the teachers' salaries and training, equipment and arranging busses to transit students.

In ensuring that workers and local communities benefit from a mining operation, companies such as SAGC and Philsaga are following the precedent of some of the Philippines' most established miners. Philex Mining has won numerous plaudits for its community development work at Baguio and as early as 1916, Benguet was the first mining company to introduce and institutionalize a liberal labor policy of providing free housing, water, light and fuel, and education, among many other benefits, to its employees and dependents.

Didipio, the First of the Philippine FTAAs

In June 2011 Australia's OceanaGold commenced construction of the high grade gold copper Didipio project located in Luzon, northern Philippines. Commissioning of the project commenced in Q4 2012 as planned and first copper concentrate was produced in December 2012. With commercial production expected to commence in Q1 2013, the Didipio project will be the first of the Philippines' six FTAA to come online. "This project will be the showcase for 100% foreign ownership of mining projects here in the Philippines. In this sense, Didipio is more important than Tampakan, because it demonstrates to those who oppose mining that we can mine responsibly and it gives them a context so that they can begin to understand mining," said Mick Wilkes, managing director & CEO at OceanaGold told us.

As part of OceanaGold's commitment to engaging with local communities, the company has established a preferential local employment policy. OceanaGold has exclusively employed Filipino contractors for the construction of Didipio and, aside from the company's own management team, no other foreign entities are working on the project. "There is enormous capacity for the service companies to provide support for the growth of the mining industry. Filipino contractors have shown they are competent partners that provide competitive rates and adequate skills," said Wilkes.

Delta Earthmoving is involved in the construction of Didipio. Established in 2003, the company had a history in construction and limestone quarrying before moving into the metals sector. "The services sector is very competitive because there are not many projects going around," said Sam Omengan, president and CEO of Delta Earthmoving. "But there is sufficient growth to be had even under current market conditions. Delta Earthmoving has invested in new equipment, which demonstrates our confidence in the market."

Stefan Schmitz, chief operating officer at Hansa Meyer Global Transport.

Siana, the Philippines Newest Gold Mine

Delta Earthmoving also carried out construction work on Red 5 Ltd. subsidiary Green Stone Resources Corp.'s (GRC) Siana mine. Siana is the Philippines' newest producing gold mine with commercial production declared on 16th April 2012.

The Siana development comprises an open pit operation followed by an underground mine, with ore treated through a conventional modern gravity and carbon-in-leach plant. The project presented an array of challenges according to Greg Edwards, who served as managing director of Red 5 between 2002 and 2012: "The site is a big bowl of water- an open cut pit with 100m of water on it. We had to drill at 22degree angles, which is unheard of."

The technical challenges inherent in the construction of the Siana mine illustrate the requirement to work with an experienced local contractor. "[Siana] was a difficult project because during the time that it was offered for bid, the pit was flooded so there was really nothing to see. The only guide we had to augment the final plans was the knowledge we had built up from previous operations," Omengan explained.

Adverse weather conditions and the lack of basic infrastructure also pose logistical challenges. According to Stefan Schmitz, chief operating officer at Hansa Meyer Global Transport, who managed logistics on the Siana project, transporting heavy items overland is complicated by insufficient bridges and the presence of obstructive overground cables. "A lot of infrastructure challenges that have been eliminated in the First World are still 30 to 50 years behind here," Schmitz said. "The country is a string of islands, so you are looking at barging between islands if you want to transport heavy lifts. The local merchant fleet is limited with regard to its lifting capacity, so for some of the high volume moving we do for mining companies we have opted to operate our own barges."

The Philippines has made considerable strides in terms of infrastructure in recent years. According to Schmitz, the computerization of the Philippines' customs system has also improved transparency and efficiency. However, some challenges, such as natural disasters are an unavoidable aspect of doing business in the country, "There are times when you will lose access to the site and have delays, so you must have sufficient stocks of things like reagents and fuel," Schmitz said.

In such instances, working with a locally experienced contractor is vital. "The key challenge in the Philippines is managing logistics and the maintenance, and then managing the drill rigs themselves. Knowing how to get things done is essential; I've seen competitors come and go because they don't have that local knowledge to be successful," said Alan Blackley of QED.

A New Generation of Nickel Mine

Mining nickel laterites is often perceived as dull, however ENK's forthcoming Acoje project is likely to break the mold in its application of advanced technology. ENK's Acoje deposit on Luzon, 290 km west of Manila, covers an area of 3,765 hectares and has a combined JORC inferred and indicated resource of 50.14 million mt grading 1.08% nickel and 0.05% cobalt.

Rob Gregory, managing director, ENK.

ENK's tank leaching technology, originally developed in conjunction with BHP Billiton in Turkey, but will be applied at Acoje to maximize returns and minimize risk in the Philippines high rainfall environment. "ENK is years ahead of anyone else in the world in tank leaching. What we are doing in the Philippines is largely unrecognized but it is very advanced," managing director Rob Gregory said. For an investment of under $500 million, ENK expects to be able to produce 15,000 mt/y of Nickel. "Our opinion has always been, why spend billions of dollars to get 99% of the Nickel out when you can spend hundreds of million dollars to get 95% out?" said Gregory.

Antonio L. Co, president of CNC.

Tank leaching is also more environmentally sensitive than the energy intensive pyrometallurgical method of processing nickel laterites. "Our plant will be running on a waste product from the oil and gas industry, instead of burning fossil fuels." Gregory said. This translates to a significant cost saving in the Philippine, where energy prices are notoriously high.

Rising Chinese Nickel demand has also stimulated interest in greater downstream investment at some of the Philippines' producing nickel mines. In 2007 the Carrascal nickel mine, operated by Carrascal Nickel Corp. (CNC) produced 2 million mt of ore in its first year of production. In 2011 the production figure more than doubled and currently the mine's production has stabilized at just above 4 million mt/y. "We were still trying to initiate and improve our production capabilities in 2007," Antonio Co, CNC's president explained. "As nickel prices surged, we had the market demand to grow. Thus, increasing production was solely a matter of increasing capability, which we were able to do over the last few years."

Co believes the Carrascal will be able to further increase production, and plans to build a nickel processing plant close to the mine site to add value to the product. "The Carrascal mine site is 4,500 hectares. However we are operating only on a very small portion of this area. Exploration on the rest of the site is ongoing. In terms of exploration, we see lots of positive data. There are more or less 120 million mt of known reserves," Co said.

The Old Guard at the New Frontier

The current uncertainty over the short to medium term future of the Philippine mining industry has undoubtedly stymied the flow of foreign investment, however project downtime is traditionally a conduit for consolidation and M&A activity.

Some of the Philippines' largest domestic mining companies have already forged promising partnerships with multinationals. Industry stalwart Lepanto, for example is working with South Africa's Gold Fields to develop the Far Southeast (FSE) project in Benguet Province, one of the country's largest gold copper veins. Brett Mattison, president and CEO at Gold Fields Philippines said: "We are fortunate with FSE because both parties recognize the relative strengths of each other. Gold Fields has a lot of underground large-scale mining experience, a strong balance sheet, and good technical people; Lepanto has the on the ground operational experience in the Philippines, and a deep understanding of the country and its people. I think it is fundamental to recognize that you are guest in a foreign jurisdiction and often you can't self-impose things."

It is not only the Philippines' well established mining players that have made recent project investments. In September 2012, property conglomerate DMCI and its joint venture partner D&A Income acquired a 60.7% interest in ENK, and in October announced that it would be buying 31% of Toledo mining, which has majority interest in the Berong nickel project in Palawan. In March 2010, San Miguel Energy Corp. acquired ownership of two coal mines in South Caotabato, Mindanao. The food and beverage giant currently holds 10% of Indophil, Xstrata's joint venture partner for Tampakan.

"The involvement of Philippine companies in the mining sector is inevitable: Philippine companies have an advantage in terms of their ability to navigate the regulations and negotiate with the various stakeholders," said Alan Blackley of QED. "The Tampakan project could benefit from having a Filipino partner and we are likely to see this. However, because it is extraordinarily complex and capital-intensive, I suspect that whoever ends up with Tampakan will need a foreign contractor."

Whether Philippine mining companies are able to advance contentious projects remains to be seen, but the realization of these projects is necessary. Recent mining advocacy has focused on highlighting the importance of metals and minerals to everyday life in the Philippines. With gold, the rationalization is stark: the Philippines has gold in abundance, and although technically the custodians of it, the vast majority of Filipinos do not.


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Vancouver Resource Investment Conference, *Vancouver, BC*
California Resource Investment Conference, *Palm Springs, CA*
Calgary Energy & Resource Investment Conference, *Calgary, AB*
World Resource Investment Conference, *Vancouver, BC*
Toronto Resource Investment Conference, *Toronto, ON*
The Silver Summit, *Spokane, WA ($40 per person)*