

PRIMER ON OPEN-PIT MINING

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Open-pit mining site in Surigao del Sur.

INTRODUCTION:

By Br. Manuel V. de Leon, FMS

Why a PRIMER? I was asked to draft a statement for the Marist Brothers and the Marist Education System as agreed by the Marist Education Council regarding the current issue on the proposed amendment to the Environment Code of South Cotabato, particularly on Sec. 22 (b) prohibiting the use of open-pit mining as a method of extracting minerals from the surface of the earth.

In order for me to come up with a draft statement, I needed to understand the pros and the cons including the data needed for a well discerned public pronouncement. The issues on open-pit mining are highly contentious and affect the national interest.

As educators, we need to be objective and impartial in presenting the facts for the students, teachers, members of the academic communities, church and cause-oriented groups, policymakers, implementors, and government regulators, and more so, the proponents of the projects to be rational in their thinking and decision-making processes.

All the information cited in the Primer were collected from the different sources available on the internet. I tried to read these materials with an open mind, organize the ideas and make sense of the information in order for me to come up with my own recommendations and conclusions.

My hope is to give a better understanding of the different issues surrounding the highly financed and controversial mining project in Tampakan, South Cotabato.

The PRIMER is far from perfect nor complete. In fact, it only touches the surface of the complex issues surrounding the mining industry in the Philippines.

I invite everyone who gets hold of the copy of this document to use it judiciously in pursuit of the truth and what is best for the common good.

WHAT IS OPEN-PIT MINING?

Open-pit mining, also known as open-cast or open-cut mining, and in a larger context, mega-mining is a surface mining technique of extracting rock and minerals from the earth. It is the most common method used throughout the world for mineral mining and does not require extractive method or tunnels.

Source: www.Wikipedia.org

GOVERNMENT POLICIES ON MINING?

- President Benigno Aquino III imposed a moratorium on new mining projects while Congress was deliberating on mining Tax Reforms.
- Gina Lopez, former DENR Secretary imposed a nationwide ban on open-pit mining
- The Sangguniang Panlalawigan of South Cotabato passed the Environment Code particularly in Sec. 22 (b) “prohibiting open-pit mining in the province
- President Rodrigo Duterte, on April 2021, lifted the 2012 ban on the moratorium on new mining agreements
- DENR Secretary Roy Cimatu, on December 23, 2021, issued an order to overturn the 2017 ban on open-pit mining.
- The Sangguniang Panlalawigan of South Cotabato scheduled a consultation dialogue on February 18 and February 24 on the proposed amendment to lift the ban on open-pit mining in the Province. Invited in the consultation meeting are the former Board Members who enacted the ordinance, farmers, youth sectors, professionals, and sectoral representatives. The voting has been reportedly scheduled for March 14, 2022.
- The public pronouncements of Governor Reynaldo Tamayo clearly send the message that, “he is not against mining provided that it is done responsibly.”
- The national government through the Department of Environment and Natural Resource (DENR) has been claiming:
 1. “Mining shall be pro-people, pro-environment in sustaining wealth creation and improved quality of life.”
 2. “The Philippine Government ensures the adequate protection of the environment, before, during mining operations and beyond the life of the mine.”
 3. “The government recognizes the rights and participation of the communities and Indigenous People and ensures the fair and equitable sharing of benefits among the company, government and host communities.”

WHAT HAPPENS TO THE OPEN PIT AFTER THE MINING OPERATION?

- There is a rehabilitation period to minimize environmental damage. This is critical to ensure the sustainability of the land and for future use.
- Waste dumps are contoured to flatten and stabilize. If the ores contain sulfide, they are covered with layers of clay to prevent rain and oxygen from oxidizing the sulfides into sulfuric acid also known as acid-mine drainage. Then the waste dump is covered with soil and vegetation is planted. Leaching heavy metal will be an issue if not done right.
- Over time, the pit is filled up with groundwater.

Sources: www.wikipedia.org; www.americangeosciences.org

Sources:

EO No. 79 s. 2012

DENR Administrative Order No. 2017-10

EO No. 130 s. 2021

Business Mirror 4/16/2021

DENR Administrative Order No. 2021-40

RapplerRommel Rebolledo, Feb. 21,2022

PNA, Allen Stabillo, July 5, 2021

denr.gov.ph



TAMPAKAN FORUM

WHAT ARE THE COMMON PRACTICES IN OPEN-PIT MINING OPERATIONS?

- Benches are dug 4-6 meters in size
- The walls are dug at an angle and include steps to prevent avalanche.
- De-watering bores are drilled horizontally in the walls to relieve water pressure which can destroy the walls if not properly addressed
- A haul road is dug at the side of the pit to form a ramp for ore carrying trucks to haul material to and from the mining site.
- Production activities include drilling, blasting, excavation, loading, transporting broken ore.
- Waste rocks is pile up near the edge of the pit and spreads both horizontally and vertically. This is known as waste dump.
- Processed ore, known as “tailing” is pumped into a settling pond until the water evaporates. **THE TAILING POND ARE OFTEN TOXIC DUE TO THE PRESENCE OF UNEXTRACTED SULFIDE MINERALS.**

Source: www.science direct.com; www.911metallugist.com

ADVANTAGES OF OPEN-PIT MINING:

- Ease of use for mass production
- Small shut down expense
- Lesser safety hazard compared to complex underground mining
- Easy drainage of subsurface water
- No machinery restrictions even heavy and building machinery can be utilized
- Lower capital and operating cost
- Ability to mine selectively for certain grades of ore

DISADVANTAGES OF OPEN-PIT MINING:

- Ease of use for mass production
- Small shut down expense
- Lesser safety hazard compared to complex underground mining
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Source: <https://sciencing.com>

WHY IS MINING BAD FOR THE ENVIRONMENT?

It changes geological, hydrological and geotechnical conditions. It influences the existing ecological system and landscape. The dust and noise affect not only the atmosphere and soil but also the whole human living space.

Source: www.mit.edu (Massachusetts Institute of Technology)

WHO WILL BENEFIT IF EVER THE BAN ON OPEN PIT MINING IS LIFTED?

The SAGITTARIUS MINING INC. The original Financial and Technical Assistance Agreement (FTAA) of the Tampakan Copper Project granted in 1995 was set to expire in 2020. The FTAA was extended for 12 years until 2032 with the option to renew for another 25 years which could mean to end in 2057.

WHO ARE THE OWNERS OF SAGITTARIUS MINING INCORPORATED?

Sagittarius Mining Incorporated is a Filipino Company registered with the Philippine Exchange Commission on July 12 1989. The stockholder structure of SMI is as follows:

- Indophil Resources Philippines owns 100% of the common shares and holds full economic control of the company. Based on the December 2014, the owners include the Alsons Group through the Funding of BDO Unibank, The SM Group, San Miguel Corporation and Philex Mining Corp. The Alcantara group has 19.99 % share in Indophil.
- The Tampakan Mining Corporation and Southcot Mining Corporation knows as the Tampakan Group of Companies owns 100% of the preferred shares.
- SMI was originally owned by XSTRATA and then later on merged with GLENCORE in 2013. Glencore used to own 62.5% of SMI and the remaining 37.5 was owned by Indophil Resources which was controlled by ALCANTARA PRIME INVESTMENT CORPORATION.
- Lately, the SM Group of Companies expressed interest in having a controlling stake of SMI and it is possible that at this time, they have actually gained control of the company considering the it was BDO Unibank who funded APIC .The SM GROUP are invested in Atlas Consolidated Mining and Development Corporation in partnership with the Ramos Family of the National Bookstore. Having the SM COMPANIES part of SMI, will provide the mining company with strong financial muscle in a very long term view on this investment.

Sources:

www.smi.com.ph

Rappler: Edwin Espejo, June 24, 2015
businessinquirer.net, 12/12/2016

WHAT ARE THE ECONOMIC BENEFITS OF THE MINING ACTIVITIES?

- Billions of pesos of revenues for the government in terms of taxes
- Billions of pesos to host communities in terms of royalty payments and social development and management programs
- It responds to the recovery efforts of the COVID-19 pandemic
- More jobs and income for small and medium scale enterprises
- 1000 workers will be hired during construction period
- 500 workers will be hired during the operations
- There will be significant ripples effects on the local economy
- Net export from copper and gold worth billions of dollars
- Industries dependent on copper will generate new jobs and income.

HOW CAN THE DAMAGES BE MITIGATED?

- a. Building of secure slopes and tipping area
- b. Regulation of water quality and water balance
- c. Creation of an attractive landscape and a balanced restoration oriented towards human needs
- d. Restoration of area for species of fauna and flora, human recreation, agriculture and forest industry.
- e. Enormous work on technology management and safety during mining activities

WHAT IS THE FINAL MINE AREA?

The proposed final mine area (FMA) is 10,000 hectares. Although in the FINANCIAL AND TECHNICAL ASSISTANCE AGREEMENT (FTAA), it is 23,571 hectares that encompasses part of South Cotabato, Sultan Kudarat, Sarangani and Davao del Sur.

Source: www.smi.com.ph

WHAT IS THE PROJECTED VOLUME OF COPPER AND GOLD THAT WILL BE PRODUCED?

The mining activities are expected to produce 12 to 15 million metric tons of copper and 15 to 18 million ounces of gold with a life of 17 years of mining.

HOW MUCH MONEY HAVE BEEN INVESTED SINCE 1995?

SMI claims that Php 30 billion in direct investment since 1995; Php 2.7 billion paid in taxes; Php 1.2 billion for beneficiaries in a form of school buildings, scholarships, health access, infrastructure and forest programs.

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HOW DOES SMI INTEND TO IMPLEMENT THE MINING ACTIVITIES?

- Prepare the site which includes vegetation clearing, drilling, blasting of ore and waste rock open-pit mining of ore and waste rocks using large mechanical shovels.
- Hauling of waste rocks from the open pit to the Waste Rock Storage Facilities and ore to ore stockpile or crusher which feeds into the conveyor storing tailings and waste rocks in Tailings Storage Facilities transporting the copper-gold concentrate from the concentrator to the port facility through buried pipeline.
- SMI needs to have a Fresh Water Dam to collect flood water during the wet season. They promise not to interfere with the natural "pre-mine" flow of the Mal River . The Dam will also minimize the risk of flooding and the impact of drought to downstream irrigators and other users.

WHAT ARE THE PHILIPPINE EXPERIENCES ON MINING?

- According to the Mines and Geoscience Bureau of DENR which was reported to NEDA, there are five (5) abandoned mines and eighteen (18) inactive mines. They were abandoned because there are no more legal owners that can be made accountable and rehabilitation and closure are not done or incomplete.
- The inactive mines are those temporarily not operating due to waiting for approval to operate or being temporarily suspended due to lack of integrity of the overall mine. There are cases of tailing spills and problems with the integrity of mine structure. Others, due to bankruptcy.
- History of mining in the Philippines shows that most, if not all open pit mining have ended up as perpetual liabilities causing adverse impact to the environment due to the generation of acidic and/or heavy metal laden water, erosion of mine waste dumps and/or vulnerability of tailing dams to geological hazards.

WHO ARE THE BIGGEST COPPER PRODUCERS IN THE WORLD?

Chile, Peru, China, Congo, USA, Australia, Russia, Zambia, Mexico, and Kazakhstan.

WHAT ARE THE USES OF COPPER?

Copper plays an important role in major global industries and will be a crucial ingredient of the transition to a low carbon energy system. High thermal and electrical conductivity used in the construction, engineering and electronics manufacturing. Its malleable properties make it particularly suited to use in wiring.

The demand for copper is expected to grow rapidly to build batteries, motors, power cables and many applications that will characterize modern energy infrastructure. There are 250 copper mines in 40 countries.



TAMPAKAN FORUM



WHAT ARE THE GREATEST CONCERN REGARDING THE MINING INDUSTRY IN THE PHILIPPINES?

- It is the lack of rules and regulations and weak enforcement of the laws.
- If government cannot implement laws on solid waste management, clean air act, anti-logging activities in watershed and protected areas, or cannot implement a reforestation program, etc. how can we expect the government to properly monitor, supervise, regulate mining activities in this country which is more complex and hazardous to environment and to human lives?

WHO ARE THE BIGGEST GOLD PRODUCERS IN THE WORLD?

China, Australia, Russia, USA, Canada, Indonesia, Peru, Ghana, Mexico, and South Africa. The Philippines is No. 23 in terms of gold production.

WHY IS GOLD VALUABLE?

Gold is the most highly desired and useful metal in the world. This precious yellow metal conducts electricity and does not tarnish. It is the metal of choice for industrial, medical and technological industries. It symbolizes power, beauty, purity and accomplishment. It is used for jewelry, medals, money and a medium of exchange. Gold reserves of countries determine its financial health and the value of its currency including the credit ratings. The iPhone we use has .034gram of gold.

Gold is an efficient conductor which can carry tiny currents and remain corrosion free. Gold is present in calculators, electronic appliances, computers and TV.

Gold is the metal of the future.

The biggest moral challenge is, CAN WE ALLOW OUR PEOPLE TO CONTINUE TO LIVE IN POVERTY WHILE SITTING ON A POT OF GOLD? WHAT WOULD BE THE SOCIAL COST TO THE ENVIRONMENT, THE CULTURAL VALUES AND TRADITIONS, TO THE FUTURE GENERATION IF MINING ACTIVITIES ARE ALLOWED IN THE PHILIPPINES?

WHAT SCIENCE HAS TO SAY ABOUT MINING IN THE PHILIPPINES?

Fr. Pedro Walpole SJ of the Environment Science and Social Change of the Ateneo had these to say during the stakeholders forum on the state of mining and the environment in Tampakan:

- 51% of Philippines is uplands that are vulnerable slopes when opened even to agriculture. It is vulnerable to landslides, mudflows and flooding.
- Our watersheds were crafted over million of years and we must manage it with respect. Once the soil and the minerals are disturbed, including the arsenic and the sulfur, the waters are polluted.
- Peoples and cultures present in the mountains must be given due respect. Often, in many cases, they were driven up from the lowlands. Now, they are driven back down to the cities by the processes of global investments.
- It is a curse, as we know of poor countries with rich natural resources that economic gain is an economics void of cultural and ecological consideration of their impacts.
- We need to re-invent the model of human development. We need a development for the public, for the common good and not for the corporate greed. We need to balance the integrity of both economy and ecology.
- There is none among the 21 legacy mines existing and operating that was managed as it should have been. The Marinduque disaster was prime example of those times.
- In society, there is the increasing tendency to ignore science because it asks tough questions. Technology, particularly techno-economic fixes, are increasingly worshipped.
- Why? Why do we grown-ups (referring to political leaders and policy makers) do these? Children ask because they don't understand greed.
- The risk Mapping Assessment by the Jesuit Institute of the Environment Science and Social Change or ESSC and World Resource Institute confirms that Tampakan belongs to an area of high ecological values, high ground water vulnerability, medium-high vulnerability to watershed stress and high seismic risk. The October 16, 2019 Magnitude 6.3 Earthquake had its epicenter in Cumbio, Sultan Kudarat with Intensity 7 felt in Tuluhan.
- The mining activities will remove topsoil, destroy wildlife of 1000 species of flora and 280 species of fauna 50 of which are under threat of extinction. The excavation will disrupt the water and degrade the aquifer in the area.



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WHAT IS THE POSITION OF THE CHURCHES AND CSOs ON MINING?

The Diocese of Marbel through its Social Action Desk, came out with a position paper saying the following:

- Uphold Sec. 22 (b) of the Environment Code that prohibits open pit mining in the Province of South Cotabato.
- Mining causes changes to vegetation, soil, and bedrock which ultimately contributes to changes in surface of hydrology and ground water level
- Reject the destruction of land and life in South Cotabato and neighboring provinces in the name of profit that will benefit the few.
- Refuse the lies and confusion sown by the powerful and the continued marginalization of the weak, and the poor especially the voiceless.
- SMI fails to convince us that it will bring genuine sustainable and equitable development
- The mining activities threaten our food supply, watershed, water sources, the safety and well being of the people.
- It disregards environmental regulations
- Urging the Provincial Legislators to stand firm in its duty to ensure the safety, convenience and well being of their constituents, forests, rivers, watershed, ancestral domains and farms that sustains our lives and give us livelihood.
- **OUR TRUE WEALTH LIES IN THE LIFE GIVING POWER OF NATURE AND WE RECOGNIZE THE RIGHTS OF NATURE AND THE BENEFITS THAT COME WITH PROTECTING THE ENVIRONMENT AND THE NATURAL RESOURCES.**

CONCLUDING STATEMENT:

Let the facts speak for themselves. We cannot over state the obvious. Pera, pera lang yan. Based on the information from SMI, the company has spent Php 1.2 billion to give scholarships, build school buildings, re-forestation programs, and others including “payolas”.

We cannot remain indifferent. We affirm our vigilance to protect our environment which is in line with our commitment to advance the Rights of Nature campaign. This is our contribution to the preservation of the delicate interdependence among all forms of life.

COVID-19 has taken more than 5.6 million lives globally and plunged nations into economic devastation. But the impact of the environmental degradation and climate change is worst than the Covid-19 pandemic.

Thus, we adhere to the call of the CBCP for unity and action amid climate emergency and planetary crisis on their latest Pastoral Statement on Ecology.

OUR CRY:

**No to greed!
No to violence!
No to exploitation!
No to corruption!
No to open pit mining!**
DEFEND LIFE. DEFEND THE RIGHTS OF NATURE.