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Maya Quirino, Issue Editor





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Please send all correspondences to:

The Executive Director
The Legal Rights and Natural Resources Center
114 Maginhawa Street, Teacher's Village, Quezon City

For any queries, please reach us through:

Telephone: 961-3145

Email: lrckskfoeph@gmail.com

Editorial Team

Executive Director: Atty. Efenita Taqueban

Editor: Maya Quirino

Copy Editing: Gail Nuqui

Layout and Cover Design: Mervin Concepcion Vergara

Editorial Assistant: Noime Librella

Cover: Dead trees in an area near the Ocean Gold Philippines mine tailings pond in Didipio, Nueva Vizcaya. Credit: Max Canlas

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Kabilin: Philippine Journal of Natural Resources

is an annual publication of the Legal Rights and Natural Resources Center.

Kabilin is a Bisaya word that means legacy, heritage, and patrimony. Kabilin: The Philippine Journal of Natural Resources takes a close look at the tensions in, notions of, and practices related to natural resources.

The philosophy that land is life shapes the way indigenous people interact with the environment. It contrasts with the idea of nature as purely a resource base. These and other perspectives are the subject of inquiry of Kabilin, to contribute towards equitable, sustainable, and gender-responsive natural resources policies and practices.

A multi-disciplinary publication, Kabilin would be of interest to indigenous peoples, policymakers, researchers, civil society, and the academe.

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Introduction

The Aztecs were not obsessed with gold. They fashioned it, malleable and ductile, only as ornaments to be worn on the body. They were a little surprised when Spanish conquistadores who invaded what is now Mexico could not get enough of it. They did not know that the Christian invaders had by then begun “issuing new gold and silver coins bearing the sign of the cross and thanking God for his help” whenever they defeated Muslims, says Yuval Noah Harari. They needed gold as an incentive in a dark war between religions.

Since then, the lust for gold has only swelled, with the manufacturing of jewelry accounting for the biggest use of gold. The Aztecs were on to something.

In Didipio, Nueva Vizcaya, mining company Oceana Gold Philippines, Inc. has been mining gold for the last 25 years, helping to feed the world’s craving for this beautiful metal. It is a profitable venture for the Canadian-Australian company, racking up record profits across the years (US\$172 million net profit in 2017 alone for all of its international mining operations). The numbers are impressive — if only one could look away from the now eerie landscape of Didipio that has been shaped by mining.

Oceana operates an open-pit mine, an image now familiar to many Filipinos. Open-pit mining excavates the surface of a mountain to extract minerals, carving out a hole the size of a lake, which is what the open pit sometimes transforms into, with enough endless rain. Access roads, for transporting ore and debris, snake round the hole from the top down to the bottom of the pit, like a football stadium made of soil. To the Igorot people who once lived on this mountain, the Oceana open-pit mine looks like their very own rice terraces, but planted to nothing, as if farmers had abandoned the work on a whim. To a people who have relied on agriculture for their livelihood, the Oceana mine is an ironic and cruel joke.

The negative effects of Oceana’s mine go beyond the disfigurement of the landscape. The wholesale destruction of agricultural and forest land cannot be undone. The nearby village is blanketed in a film of dust that creates a host of health problems and risks. Didipio is also part of a Nueva Vizcaya watershed, which supplies 40% of the water requirements of Northern Luzon. The Commission on Human Rights issued a report in 2001 that Oceana violated the rights of indigenous peoples in Didipio.

Understandably, a huge slice of the indigenous Igorot people in Didipio is against Oceana’s operations.

Oceana would not be allowed to mine under the Alternative Minerals Management Bill (AMMB), a bill that unfortunately, but unsurprisingly, continues to languish in Congress.

The AMMB bans the open-pit mining method, prohibits mining in prime agricultural lands and critical watersheds, and suspends permits for mining corporations found culpable of human rights violations. Oceana ticks off all of these boxes.

This collection of papers is the first in a series on AMMB that provides policy and research bases for select AMMB provisions. By anchoring AMMB in analyses that draw upon ground realities and empirical data, this collection challenges the long-held belief of the mining industry that they have the monopoly on scientific and technical expertise, expressed in the umbrella term “responsible mining”. If anything, the mining industry is fond of turning a

blind eye to scientific studies (which include measurements such as TEV, or Total Economic Valuation) when these do not support their unsavory designs on the environment.

A piece by James Matthew Miraflor debunks the claims of the mining industry that mining is the economic silver bullet for mining regions CARAGA and MIMROPA. The industry has said that while mining has little impact on the Gross Domestic Product, it is the boon of regions which are mining-reliant. Miraflor shows data that even there that is not the case.

Rio Dayao defends the logic of the 10% excise tax on mining activities (versus the present 4% excise tax) in the AMMB. It turns out this figure, much ballyhooed by mining corporations as exorbitant, is not only reasonable but equitable.

Dr. Padmapani Perez shares lessons from the implementation of the PAMB (Protected Area Management Board), a mechanism very similar to the Multi-sectoral Mineral Council (MMC) being proposed in the AMMB. Both the mining industry and civil society organizations have an axe to grind with the PAMB. The PAMB has been co-opted by government leaders who have a soft spot for business interests rather than environmental protection, according to one community leader. Meanwhile a mining executive bemoaned how the MMC can become as “bureaucratically unwieldy” as the PAMB.

Dr. Jessica Salas offers a definition of watersheds, supplanting the archaic and limited meaning still conveniently fashionable in these parts. Watersheds are controversial in the mining (and anti-mining) circles, for endangering a water source (from a small brook to an entire river) is built into the DNA of a mining operation.

Miners are therefore careful about what a watershed is or not, gunning for as narrow a definition as possible. For conservationists, preferring to err on the side of caution, the definition must be as broad as possible. Based on the definition she uses, Dr. Salas provides some of the principles around which a watershed management unit can be organized. This is helpful for thinking through AMMB’s own MMC, which employs the ridge-to-reef concept of watersheds.

Ten years old this year, the AMMB is the nation’s last hope against mining corporations who will gladly level mountains and rend communities apart to sate their bottomless thirst for profit. As the world braces for the cataclysmic impacts of climate change that could very well lead to the Sixth Extinction — the planet’s sixth mass extinction event — lawmakers must allow mining only under the most stringent conditions, if at all. The country is waiting with bated breath.

Maya Quirino

5 April 2019, Quezon City

The Alternative Minerals Management Bill: In Brief

The Philippines is rich in minerals. We need a new law that allows us to use these minerals to build our nation instead of destroying it.

The Alternative Minerals Management Bill (AMMB) proposes to manage our minerals for national industrialization; to prohibit mining in areas that are sources of food and water; and to place greater safeguards for affected communities.

These are features of **rational mining** — mining that helps build the nation, protects the environment, and promotes the welfare of the people. The AMMB replaces the 1995 Mining Act, a law that has put mining companies first before life and country.

The AMMB and the economy

The 1995 Mining Act treats nature purely as a factor of production, supporting an export-oriented business model.

One of the most convincing arguments that the 1995 Mining Act does not work is how little the mining industry contributes to the economy — on average, 0.07% to the GDP per year. The state just gets up to 2% in taxes, effectively giving away our minerals to mining companies.

The mining industry does not employ many people either, contrary to the claims of the industry. Data from the Mines and Geosciences Bureau (MGB) found that, on average, the industry only employs around 250,000 people per year, or 0.6% of the labor force. Most of the people employed by mining companies are not from the host communities.

Under the AMMB, minerals will be managed to help the country industrialize.

Instead of being exported as raw materials, minerals mined in the Philippines will be processed in the country, to boost downstream industries, help modernize agriculture and improve our manufacturing industries, among others.

Under the AMMB, only Filipino-owned corporations will be allowed to mine in the country. This is a shift from the 1995 Mining Act, which allows large-scale and often multinational mining companies to mine in the country chiefly for export. Under the AMMB, Filipino corporations will be a partner of government in nation-building.

The AMMB and the environment

The AMMB recognizes the vital role of strategic minerals in helping the country industrialize. However, this does not give the mining industry carte blanche to exploit our natural resources for profit.

In the AMMB, the environment does not have a price tag, and environmental conservation, biodiversity, food and water sources come before mining. The AMMB also recognizes the reality of climate change and disasters; mining must not add an additional layer of hazard to already vulnerable areas. As such, the AMMB declares the following areas no-go zones for mining:

- Areas declared no-mining zones by local governments
- Densely populated areas, especially residential areas
- Head waters of watershed areas
- Areas with potential for acid mine drainage
- Critical watersheds
- Critical habitats
- Climate disaster-prone areas
- Geohazard areas
- Key biodiversity areas
- Prime agricultural lands
- Old growth, natural or primary and secondary forests, watershed forest reserves, wilderness areas, among others

The projected droughts in Mindanao because of climate change, for example, should inform any decision about mining, which is water-intensive. While boosting trade in the short term, mining endangers water sources in the long term.

The AMMB also requires corporations to set aside sizeable funds for rehabilitation after mining.

Before an area is opened to mining, a comprehensive assessment that covers health, environmental, cultural, land use, and economic impacts shall first be made.

The AMMB and people

The AMMB puts people at the heart of minerals management.

Under the AMMB, a Multisectoral Minerals Council (MMC), composed of representatives from government, affected local and/or indigenous peoples communities, will be formed to be part of any and all decision-making related to mining in their area.

This council decides if an area can be opened to mining (after the MGB makes a scientific recommendation that an area has strategic minerals); chooses which Filipino corporation will undertake the mining; monitors the progress of the mine; and other such crucial decisions. The Free and Prior Informed Consent (FPIC) of indigenous peoples must be secured at each and every stage of decision-making.

This honors the right of indigenous peoples to self-determination, which is enshrined in the 1997 Indigenous Peoples Rights Act; and the right of local communities to participation and the right of local governments to autonomy, as provided in the Local Government Code.

By allowing only strategic minerals to be mined — minerals needed for national industrialization — the AMMB also conserves the environment for future generations. Our natural resources are finite and interdependent; destroying one area has an effect on other ecosystems.

The AMMB also recognizes that human rights abuses committed by mining corporations are grounds for the suspension or cancellation of mining licenses. Under the AMMB, violations committed by mining employees implicate their companies: corporate failure to police its employees is evidence of liability.

The track record on human rights of a mining company will form part of the basis for the issuance, suspension and cancellation of permits.

Issues of Representation and Participation in the Protected Area Management Board and the Multi-sectoral Mineral Council

By Padmapani L. Perez, Ph.D.

This position paper describes the composition, powers and functions, and decision-making processes of the Protected Area Management Board (PAMB). The description of the PAMB is drawn from the National Integrated Protected Areas Act of 1992 (NIPAS), or Republic Act 7586 and its Implementing Rules and Regulations, as well as the Expanded National Integrated Protected Areas Act of 2018 (ENIPAS), or Republic Act 11038, which amends the former. Although the ENIPAS will eventually supplant the NIPAS, it remains necessary to examine the NIPAS as this so far has been the basis on which PAMBs have been set up and functioning in protected areas across the nation. Furthermore, the Implementing Rules and Regulations for ENIPAS are still being drafted and revised for approval.

The description or overview of the PAMB is followed by a discussion of its benefits and disadvantages. Finally, a comparison is drawn between the PAMB and the Multi-Sectoral Mineral Council (MMC) of the Alternative Mineral Management Bill (AMMB), with lessons learned from the PAMB, and questions and recommendations for the MMC.

An overview of the Protected Area Management Board

The law stipulates that a PAMB shall be created for every protected area in the country that is declared an initial component, established by presidential proclamation, or declared by law. The PAMB has regulatory, oversight, and decision-making powers. A PAMB may create its own regulations and Protected Area Management Plan as suits the specific context of the protected area. The body is tasked with the creation and implementation of a Work and Financial Plan. The PAMB has monitoring and evaluation functions as well.

Membership on the PAMB is a duty performed for five years without compensation, “except for actual and necessary traveling and subsistence expenses incurred in the performance of their duties.” (ENIPAS)

The composition of the board changes drastically from NIPAS to ENIPAS. When implementation commences, the PAMB will include members of the Senate and Congress, the Philippine National Police, the academe, and a limited number of indigenous representatives. The NIPAS calls for one representative from each indigenous community within the protected area. The ENIPAS, on the other hand, states that there shall be at least one but not more than three representatives from all the indigenous peoples (IP) or indigenous cultural communities (ICC) in the area. This is being interpreted to mean a maximum of three indigenous representatives to the PAMB; not one to three indigenous representatives for each ICC affected by the protected area. Indigenous leaders deem this to be greatly to their disadvantage.

Both the NIPAS and ENIPAS state that the PAMB should ensure harmony between the Protected Area Management Plan and the Ancestral Domain Sustainable Development and Protection Plan (ADSDPP) of IPs/ICCs affected by the protected area. Such harmonization tends to be the exception rather than the rule.

The table below shows the amendments that the ENIPAS makes to the original sections of the NIPAS Act covering the PAMB's composition, powers and functions.

Table 1. Comparison of the PAMB in NIPAS and ENIPAS.

	NIPAS/REVISED IRR (DAO 26 series of 2008)	ENIPAS
COMPOSITION	<p>DENR Regional Director as chairperson;</p> <p>One representative of the Autonomous Regional Government, where applicable;</p> <p>Provincial Planning and Development Coordinator of each province with territory in the protected area;</p> <p>One representative from each Municipality covering the protected area;</p> <p>One representative from each barangay covering the protected area;</p> <p>One representative from each tribal community within the protected area as certified and endorsed by NCIP;</p> <p>At least three but not more than five representatives from local NGOs and community organizations (includes CSOs, POs, religious organizations, and the academe);</p> <p>One representative each from other departments or NGAs involved in the protected area.</p>	<p>DENR Regional Director as Chairperson;</p> <p>Governors of the provinces where the protected area is located or their duly designated representatives;</p> <p>A Senator of the Republic of the Philippines who is a duly registered resident of the city or province where the protected area is located or a duly authorized representative (Senators may decline membership);</p> <p>District Representatives of the Congressional districts where the protected area is located or their duly designated representatives (District Representatives may decline membership);</p> <p>Mayors of the cities or municipalities where the protected area is located or their duly designated representatives;</p> <p>Chairpersons of the barangays where the protected area is located;</p> <p>Regional Directors of the following government agencies: the Department of Agriculture (DA), the National Economic and Development Authority (NEDA), the Department of Science and Technology (DOST), the Philippine National Police (PNP), and the Department of National Defense (DND);</p> <p>Three representatives from either an NGO or PO, duly accredited both by the DENR and the provincial government;</p> <p>At least one but not more than three representatives from all the IPs/ICCs present in the area and recognized by the National Commission on Indigenous Peoples (NCIP);</p> <p>One representative from an academic institution, preferably from a university or college in the province where the protected area is located;</p> <p>One representative from the private sector, preferably a resident of the province where the protected area is located, who is distinguished in a profession or field of interest relevant to the protected area management.</p>

<p>POWERS AND FUNCTIONS</p>	<p>Approve policies, guidelines, plans and programs, proposals, agreements and other related documents including the Manual of Operations for the management of the protected area;</p> <p>Facilitate the ground delineation and demarcation of the boundaries of the protected area and buffer zone;</p> <p>Ensure that the Management Plan of protected area and the Ancestral Domain Sustainable Development and Protection Plan (ADSDPP) are harmonized;</p> <p>Ensure the implementation of programs as prescribed in the Management Plan of protected area;</p> <p>Monitor and evaluate the progress in the implementation of the Management Plan, including the harmonized plans with ADSDPP;</p> <p>Monitor and assess the performance of the Protected Area Superintendent (PASU) and other protected area personnel, and compliance of partners to the terms and conditions of any undertaking, contract or agreement;</p> <p>Resolve conflicts or disputes among tenured migrant communities, between tenured migrant communities and ICCs/IPs but excluding conflicts or disputes exclusively among ICCs/IPs;</p> <p>Recommend fees and other charges to the Secretary for the use of the protected area.</p>	<p>Oversee the management of the protected area;</p> <p>Approve policies, plans and programs, proposals, agreements and other related documents for the management of the protected areas;</p> <p>Approve the management plan of the protected area and ensure its harmonization and integration with the ADSDPP, land use plan and other development plan, public or private, and its implementation;</p> <p>Adopt a manual of operations to include rules of procedures in the conduct of business, and the creation of committees and their respective terms of reference;</p> <p>Recommend the deputation of appropriate agencies and individuals for the enforcement of the laws, rules and regulations governing the management of the protected area;</p> <p>Allocate financial resources for the implementation of the management plan and manage the Protected Area Retention Income Account and other funds in accordance with the accounting and budgeting rules and regulations;</p> <p>Set fees and charges in accordance with existing guidelines;</p> <p>Issue rules and regulations for the resolution of conflicts through appropriate and effective means;</p> <p>Recommend appropriate policy changes to the DENR and other government authorities;</p> <p>Monitor and assess the performance of the PASU and other protected area personnel and compliance of partners with the terms and conditions of any undertaking, contract or agreement;</p> <p>Recommend from among a shortlist of qualified candidates, the designation or appointment of the PASU;</p> <p>Assess the effectiveness of the management of the protected area: provided that the members of the management board representing the LGUs and national agencies in the PAMB shall inform their respective constituents, offices or sectors of PAMB-approved or other relevant policies, rules, regulations, programs, and projects and shall ensure that the provisions of this Act and its implementing rules and regulations are complied with, and used as reference and framework in their respective plans, policies, programs, and projects.</p>
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Benefits and disadvantages of the PAMB:

- Multi-sectoral coordination is ensured by the composition of the board.
- The PAMB becomes a venue for LGUs and government agencies to negotiate their roles, responsibilities, and jurisdictions in the protected area.
- Vital information can be expected to cascade to local and indigenous communities through their representatives on the board.
- Composition is very clearly and explicitly stated in the law, thereby preventing confusion and conflict over who gets to represent whom on the board. Government positions and the number of representatives per entity or sector are specified. However, this has a twin disadvantage for indigenous communities in particular: the ENIPAS stipulates that there shall be no more than three ICC/IP representatives to the PAMB. This is being interpreted to mean that even if there may be four or more ancestral domains affected by a protected area, only three indigenous representatives may sit on the PAMB.
- Travel to the venue for PAMB meetings is often costly for local and indigenous community representatives. Even in instances where transportation costs are reimbursed, the presence of the representative in the PAMB meeting could mean two or three days that his/her household has one less provider working with the family.
- At times, local and indigenous representatives do not receive early notice of upcoming PAMB meetings.
- Local and indigenous community leaders are relegated to merely reporting to their communities about decisions made by the PAMB. They are not supported or enabled to consult their communities on protected area matters *prior* to any decisions made by the PAMB.
- In implementation, the PAMB achieves its systemic goals: attention to protocol, infrastructure, and finances. However, this often happens at the expense of more substantive functions such as monitoring biodiversity conservation, regulating resource use in the protected area, and conflict management.

The PAMB and the MMC

The table below compares the PAMB as implemented with the MMC as stipulated in the AMMB. The two boards/councils are compared and contrasted through composition as stipulated in the respective laws; representation and the basis for such representation; powers and functions; conduct of business or in-meeting processes; and decision-making processes. Some questions on the AMMB and the MMC are put forward as well.

Table 2. Comparison of the PAMB and MCC, with questions and considerations.

	PAMB	MMC
Composition	Clearly outlined. Little or no flexibility.	Open to interpretation, allowing flexibility. Composition prone to manipulation during implementation.
Selection processes for board members	Unclear in the ENIPAS. In practice, selection processes are varied, usually determined by PASU and/or LGUs. The NIPAS-IRR states that IP representatives must be “certified” or “endorsed” by the NCIP. The ENIPAS states that IP representatives must be “recognized” by the NCIP.	Not specified.
Basis for representation	Political: LGUs, government agencies, Congress, NGOs and POs, local and indigenous communities whose territories cover the protected area.	Ecological: Local communities and LGUs dependent on the watershed continuum that will be potentially affected by mining.
Powers and functions	Decision-making, budget management, regulation, monitoring.	Decision-making, approval of proposals for mineral agreements, monitoring.
Venue for meetings	Not stipulated in the law. Meetings commonly take place in DENR offices located in nearby cities or towns. Occasionally, PAMB meetings may take place in forest ranger stations inside the protected area.	Not stipulated.
Conduct of business, in-meeting processes	Formal and bureaucratic. Discussions tend to alienate local and indigenous representatives.	To be determined? If this can be addressed in the AMMB, then how can the law enable and support genuine and effective participation?
Decision-making	By voting	By voting
Time as an element in decision-making	No time for local and indigenous leaders to consult with their communities <i>before</i> decisions are made.	No process or timeframe for local and indigenous leaders to consult with their communities prior to having to cast votes.
Support for attendance	Varied across sites. The ENIPAS states that there is no compensation for membership on the board, except for travel and subsistence expenses.	Nothing stated.

Lessons, questions, and recommendations:

On representation

- Representation is valued by local and indigenous communities. However, representation by itself does not ensure that local and indigenous communities are able to participate in the PAMB fully and effectively. Full and effective participation is often hampered by the manner in which business is conducted by the PAMB. This is explained further in the section on processes and implementation, below.
- In the composition of the MMC in the present AMMB draft, we can imagine a scenario in which local and indigenous representatives may outnumber government representatives. However, the question of whether majority representation can

translate to full and effective participation and lead to decision-making that reflects the will of the communities needs to be explored.

- It is important to local and indigenous communities that they be able to select their representatives to the PAMB themselves. It's worth considering whether this should be stipulated in the MMC. In many PAMBs, indigenous representatives in particular are selected or appointed by LGUs or the DENR.

On processes and implementation

- In the current draft of the AMMB, two-thirds of the MMC must approve the opening of a site to mining. Decision-making by vote may allow patron-client politics and relationships to swing the vote. This has certainly been the case for the PAMB. Indigenous and local community representatives have stated that they don't feel that their votes count on the PAMB.
- Formal procedures in meetings are not for everybody, but most boards seem to favor such, without considering or realizing that other board members may not feel comfortable or confident, or that they may need capacity-building and support so they can participate effectively. It may be worth considering training or capacity-building for ALL members of the MMC so that everyone can start their membership on the same page and with equal or proximate capabilities.
- In the current draft of the AMMB, where there are ancestral domains, will the MMC still make decisions by vote, or will the FPIC of the indigenous community prevail?
- Create a mechanism by which communities are provided with information and agenda BEFORE the council convenes to tackle said information and agenda. Indigenous and local community representatives feel that they violate their duty to their communities when they vote on issues put before the PAMB without consulting their respective communities
- Consider providing support for local and indigenous communities to meet and discuss the agenda and information BEFORE the MMC convenes. This process hews closely to the ways in which indigenous communities make decisions or arrive at a consensus.

On time as an element in decision-making

PAMBs tend to mark time by fiscal years and targets. This is very different from how local and indigenous communities mark time, or even make use of time. Time is a crucial factor in the implementation of powers and functions of both the PAMB and the MMC. However, time is not explicitly dealt with in the relevant laws, except to set limits to the number of days or months for certain targets or actions to be carried out. In the implementation of the PAMB, this limitation has been experienced by indigenous communities as a curtailment

of their right to take the time to discuss, debate, and reach consensus among themselves on matters affecting them directly.

Concluding remarks

While management or governing bodies such as the PAMB or MMC create venues for inclusion and representation, they do not in themselves guarantee full and effective participation for local and indigenous community representatives. The meetings and proceedings of such bodies are generally not felt to be “safe spaces” for indigenous and local communities to make themselves heard or to assert their will. Voting as a decision-making process is prone to patron-client politics. Thus, it is important to try and circumvent instances in which indigenous or local presence on a board or a council may be conflated with consent. One way to protect and enable indigenous and local communities’ agency is through creating provisions in laws and policies that open up more spaces for indigenous and local communities to exercise their rights, and that give ample time and support for indigenous and local communities to study, deliberate, and decide upon matters affecting them and their well-being.

Determining a Watershed Management Unit

By Jessica Salas, Ph.D. for The Haribon Foundation

A watershed refers to land bounded by a hydrological system within which communities of plants, animals and people are inextricably linked by a common stream flowing to another stream, river, lake, or another body of water and to the sea.

Watershed continuum refers to a land area bounded by ridges (watershed divide), where streams flow from the ridges (tributaries) to a common outlet which could be another water body, a river, a lake or the sea. This continuum is the watershed.

Community-based watershed management is a social process where scientists, non-scientists, and technical experts develop an understanding of the socio-cultural-economic situation of a local watershed to enable participation and integration of practices adapting to environmental changes and individual actions to improve ecosystem services and quality life of all stakeholders.

IWRM, or Integrated Water Resources Management, is a process which promotes the coordinated development and management of water, land, and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Watersheds, also known as basins or catchments, are physically delineated by the area upstream from a specified outlet point. Watersheds can be delineated manually using paper maps, or digitally in a GIS environment. Watersheds come in different sizes crossing political boundaries. A watershed management unit may be decided based on certain parameters such as:

1. Scale and scope. DENR DAO 2000-01 defines watersheds into following scales:

Catchment	Area	Scope
River basin	Over 1,000 km ²	Inter-regional
Large watershed	500-1,000 km ²	Regional inter-provincial
Medium watershed	100-500 km ²	Provincial
Small watershed	10-100 km ²	Provincial / municipal
Micro watershed	Under 10 km ²	Municipal / barangay

The size and scope defines the span of control, the extent of influence, and the area of operation.

2. Structures in a multi-stakeholder, multi-tiered, multi-sector watershed organization are determined by managing units located in the local government unit as a local body. These are defined by their responsibilities and legal basis, with determined composition and staffing. The composition of each local body is represented by various sectors and staff work is carried out by the Environment Office or Agriculture Office of the local government unit. The composition and responsibilities are indicated in the ordinance that created the particular local body at each level.

Area	Managing body	Responsibility
Regional	Regional Development Council Committee	Monitoring and evaluating water programs, policies, advocacies, information dissemination. Supports creation of multi-sector watershed management groups in the region
Provincial	X* Province Watershed Management Council	Responsible for policies, funds, actuating activities and networking.
Watershed	X Watershed Management Board	Responsible for planning, actuating, technical applications, decision making, programming, consolidation, watershed monitoring and evaluating.
Municipal	X Municipal watershed core group	Responsible for implementation, participation in planning, facilitating technical services, and disseminating information to barangays.
Barangay	Barangay Information Center	Provides information for people's initiatives, whether individual or group. Conducts community mapping and other water planning exercises.
Households or the neighborhood	People's Initiative	Participates in community mapping, stakeholders' assembly, water planning. Accesses technical information, demands technical services, and decides and initiates action.

**X = Name of formation or entity*

3. Governance. Four elements for watershed governance are determined and defined by each local body. These are: authority, regulatory power, decision-making, and accountability. Each local body may craft and define its function, vision, mission and objectives, particularly including citizens' literacy, availability of scientific data, information dissemination, planning process, and implementation.

Position Paper on Mining and National Industrialization

By the SOS Yamang Bayan Network

The present mining regime treats nature purely as a factor of production, supporting an export-oriented, profit-centric business model.

Indulged by the 1995 Mining Act, the government, through the DENR, had for years been a handmaiden to the brutal plunder of mineral resources, the displacement of indigenous peoples' communities, and the destruction of the environment by large-scale mining operators. For a dismal contribution to the GDP (0.07% in 2015), large-scale mining companies — many foreign-owned under Financial or Technical Assistance Agreements (FTAAs) — have been given the run of the land, appropriating the minerals rightfully owned by either indigenous peoples or the state.

The proposed Alternative Minerals Management Bill (AMMB) provides a fundamental shift in our minerals development framework, from the commodification of our natural resources to a rational, nurturing, people-centered minerals development within a national industrialization plan.

AMMB argues that mining can only be pursued if supported by a sound and sustainable Philippine industrialization plan that includes the modernization of agriculture, the promotion of the manufacturing sector, and the creation of downstream processing. This is a radical shift from export to domestic use, prioritizing minerals for Filipinos. Under the framework of industrialization, mining in the country will work on value addition; where under the 1995 Mining Act mining has been a mostly extractive industry, exporting minerals as raw materials for foreign nations with established industries.

We thus argue that the national government, through the National Economic and Development Authority (NEDA), must lead in drafting a robust and comprehensive national industrialization plan that integrates mining into the entire national economy. In the past, efforts to formulate and implement a national industrialization plan had often been a token gesture with no serious attention and investment being devoted to it.

We issue a caveat, though.

Economic liberalization and the commodification of natural resources have led us down a destructive and bloody path. Recently, Nico Delamente, the leader of a Mamanwa group and a vocal anti-mining advocate, was gunned down. Many others before him had perished from resisting the intrusion of large-scale mining companies into indigenous peoples' domains. Still many more had been intimidated into giving their consent to mining projects.

As documented by the DENR, under the leadership of Secretary Gina Lopez, large-scale mining has resulted in irreversible environmental damage. From place to place, we have seen the pollution of water sources, the siltation in rivers, and the decimation of forest cover.

The AMMB rightly provides for the rights of indigenous peoples and local governments to say yes or no regardless of the role mining in their area will play in national industrialization. It is especially critical to acknowledge that indigenous peoples' ancestral domains are not public domain — not State property — and that in the final analysis, their right to self-determination and their territory trumps the state's program for industrialization. This is one of the important pillars of the 1997 Indigenous Peoples' Rights Act (IPRA). If they determine that mining will endanger watersheds, threaten their way of life, disturb their burial grounds and so on, industrialization will have to retreat.

Economic efficiency is not the only arbiter of development. A more holistic approach that considers other dimensions — from ecological to socio-cultural — must inform the new minerals management regime that we want to establish. The national industrialization plan must take into account its impact on the integrity of various cultures hosting any planned extraction and the promotion of ecological balance.

Position Paper on Penal Provisions

By the SOS Yamang Bayan Network

The 1995 Mining Act treats mining companies that commit human rights abuses and environmental harm with kid gloves. The Corporation Code similarly is all but silent on punishment for erring corporations.

But large-scale mining corporations are notorious for intimidation, harassment, and outright killing to force communities to sign off on mining, or to quell their resistance.

In a report by Franciscans International and Rural Missionaries of the Philippines, the following human rights abuses have been recorded:

- Magnetite mining operators and local authorities have intimidated anti-mining groups in Cagayan Valley.
- In Homonhon and Manicani islands in Eastern Samar, anti-mining groups have been intimidated and communities' basic rights to water and to livelihood have been blocked.
- Jimmy Liguyon from the the Matigsalug and Tigwahanon indigenous communities in San Fernando, Bukidnon was shot dead in his home. He actively protested against the entry of large-scale mining.
- Just this year, Nico Delamente, the leader of a Mamanwa group and a vocal anti-mining advocate, was gunned down.

The penal provisions of the Alternative Minerals Management Bill (AMMB) will make abusive mining companies accountable to the law. It sets out penalties, including the cancellation of mining operations, for human rights abuses. The AMMB provides for punitive and restorative justice.

The AMMB allows for a platform for communities to pursue action against corporations — a provision absent from the 1995 Mining Act.

Abuses committed by employees of corporations necessarily establish the complicity of the corporations themselves. Rather than personal, the liability is organizational. Under the AMMB, a corporation's failure to police its employees is evidence of liability. Officers, directors, and senior-level management found liable for human rights abuses will face perpetual ban and disqualification from mining.

If the cases take too long, the cancellation of the mining permit can and must be pursued first while criminal and civil cases are ongoing.

Penalties for destructive mining practices will also be higher if the AMMB is passed into law. Under the 1995 Mining Act, illegal exploration is fined Php 50,000 — a small price that capital-rich mining companies do not mind paying in exchange for the promise of millions in profits. Many mining companies just pay this small penalty and keep on committing

illegal acts. Under the AMMB, habitual violation will be grounds for the cancellation of permits.

The AMMB must also try to distinguish between true liability and SLAPP, or Strategic Lawsuit Against Public Participation. Mining companies, with their arsenal of lawyers, will use small infractions by communities to go after them. The Corporation Code has very strict requirements for the liability of people. The theft of minerals refers to large-scale mining for commercial use, and not to small-scale mining.

For a long time, mining companies have trampled on the rights of communities in their pursuit of profit. The AMMB gives communities at risk from the violence inherent in development aggression the platform to seek protection from the law, and, when that is not possible, justice. Communities that have resisted the encroachment of mining on their land know that violence is sometimes an option for mining companies when breaking the law has little or no consequence, or worse, when there is no law to break in the first place.

Why a 10% Mining Excise Tax Works

By Rio Dayao

In his paper, “Mining Taxes in Developing Countries”, Prof. James Otto emphasized that there is no ideal tax system; instead, there are certain guidelines in achieving tax objectives. Each country should look at its unique needs and features in coming up with its national tax policy. However, he also noted that countries are starting to look beyond their borders to harmonize their industrial policies to the global economy.

In the attempt to determine what fairness is, governments use the market as a proxy variable by simply calculating and comparing the total effective tax rates across countries (refer to Exhibit 1). Generally, companies will prefer countries with lower effective tax rates over those with higher ones.

Distribution of mining tax collections in the Philippines

In the Philippines, the primary types of taxes levied on the mining industry are corporate income tax, minerals excise tax, and royalties on mineral reservations. The corporate income tax is pegged at 30% of the firm’s taxable revenue, whereas mineral excise tax was recently increased from 2% (under the Philippine Mining Act of 1995) to 4% (under the TRAIN Law in 2018). Meanwhile, the royalty tax on minerals varies from 2% to 5% for gold, copper, and iron ore levied on their market value, and Php 10/metric ton for coal levied on its volume. As mandated by the Department of Budget and Management (DBM), all revenues collected from extractive industries must be recorded in the national budget. This does not include the collections of the local government units (LGUs), however.

According to the Local Government Code, there should be a 60-40 prescribed distribution of national collection from taxes in favor of the national government. Further, a 70-30 sharing of local businesses tax should be made in favor of LGUs.

The 40% share of LGUs from the national budget is sourced from three types of national wealth — the royalty on mineral reservations (disbursed annually by the MGB), energy resources productions (disbursed annually by the DOE), and the mining taxes (disbursed quarterly by the BIR). But note that 10% of the revenue from royalty on mineral reservations is appropriated by the MGB prior to the distribution of the remaining 90% between the national government and the LGUs.

Challenges in allocation

The first challenge in the allocation of mining tax collections is in the monitoring of LGUs. Section 24 of the Local Government Code mandates that shares from the national wealth of LGUs should be utilized by the respective *sanggunian* as funding for local livelihood and development programs. However, the share from the national wealth goes into the LGU’s general fund, making it hard to track how the sourced revenue from mineral tax collections are being used.

Another challenge is LGUs' non-compliance with the appropriation rule. A lot of LGUs put all their revenues together in the general fund, even those from local payments and national transfers. They then source from it the budget for all types of their LGU expense and projects. In fact, other LGUs have their share from national wealth directly credited to their banks without even getting a formal notice as to where it was sourced from (i.e., excise tax and others). This makes the monitoring and tracking of funds even harder.

To address these concerns, DBM issued Joint Circular No 2016-1 which aims to streamline the process of releasing funds to LGUs, including their share in the national wealth.

How affected mining communities benefit

Affected mining communities benefit directly and indirectly through extractive companies' social expenditure programs. These may come in the form of mandatory social expenditures and discretionary social expenditures.

Mandatory social expenditures are funds and expenses that extractive companies are required to allocate for the promotion of social development of hosting and neighboring communities, as well as environmental protection and sustainability. An example of this is the Social Development and Management Program, where 1.5% of a firms' prior year's expense is allocated to information, education, and communication, mining technology and geosciences advancement, and primarily to social development and management initiatives. Another is the Environmental Protection and Enhancement Program, where 3-5% of direct mining and milling expenses of extractive companies are allocated to initiatives such as reforestation and waste management.

Examples of discretionary social expenditures include farm-to-market roads, medical missions, and fuel cost assistance given by extractive companies to affected communities.

Additionally, Indigenous Peoples hosting mining operations are entitled to at least 1% of gross output production.

A 10% excise tax on minerals

Just recently, RA 10963 or the Tax Reform for Acceleration and Inclusion (TRAIN) Law raised the excise tax on minerals from 2% (under the 1995 Philippine Mining Act) to a 4% excise tax on sales.

Excise Tax (in %)	Expected Government Revenue	Projected Additional Revenue	Remarks
1	900233158.5	(900 M) -900233158.5	
2	1800466317	(1.8 B) 1,800,466,317	1995 PH Mining Act Rate
3	2700699476	(900 M) 900233158.5	
4	3600932634	(1.8 B) 1800466317	TRAIN Law Increase
5	4501165793	(2.7 B) 2700699476	
6	5401398951	(3.6 B) 3600932634	
7	6301632110	(4.5 B) 4501165793	
8	7201865268	(5.4 B) 5401398951	
9	8102098427	(6.3 B) 6301632110	
10	9002331585	(7.2 B) 7201865268	AMMB proposed rate

Source: PH EITI 2016 Report

Based on the Extractive Industries Transparency Initiative's (EITI) Philippines 2016 report, it is projected that the government will gain an additional Php 1.8 billion in revenue from the increase imposed by the TRAIN Law. However, this is not enough, considering that the mining industry has profited so much already from the state's resources. Thus, a 10% excise tax on sales of mining firms which will amount to a total of 7.2 billion Philippine pesos is being proposed.

According to a published report of the International Council on Mining and Metals on Minerals Taxation Regimes, countries with low-income economy should have a less complex type of taxation. This means that the country's fiscal policy objectives shall be met with a minimum number of a mix of fiscal instruments. Thus, excise tax is the most strategic type of taxation the government shall explore in the taxation of mining industry.

We present six main arguments to support our proposal.

Simplicity is the first argument that supports this proposition. Since the government will simply levy the tax on the sales of mining companies, it will be easier to calculate the amount that must be paid. It will also be easier to audit.

The second argument that supports our proposition is on **general administrative capacity**. A standard problem in developing countries such as the Philippines is that the government's ability to successfully implement new tax regimes is lower. Hence, a simple type of taxation such as the excise tax is preferred.

Third, **long-term considerations**. Direct tax instruments, such as income or profit-based ones, are supported by the political economy of taxation. They are likely to overcome the problem of lower administrative capacity in the long run as they carry a greater revenue imperative.

Fourth is the **trend away from royalty-based taxation**. Mining companies do not profit sometimes during operation. But because of royalties, they are obliged to pay the host country even at a negative. This causes unnecessary regressive implications on the stability of the mining firms, which would more likely drive investors away. That is why, for the past years, there has been a shift away from value-based taxation (royalties) towards income-based ones (i.e., excise tax on sales). An excise tax, as opposed to a royalty-based tax, would be a more amenable bargain to the mining firms as they are sure to have gained profits when taxed.

The fifth argument is the **resource seeking nature of mining firms**. Mining firms invest in other countries primarily because of the abundance of minerals in those countries (Dunning, 2002). They continue to operate because of the expected profitability from the rich supply of minerals in the host country. In 2013, the Philippines was recognized as the largest producer of nickel worldwide, 34th in iron ore production, and one of the largest producers of gold, copper, chromite, and aluminum in our region. We believe that the country is naturally endowed with resources enough to maintain the demand of our current investors.

The last argument is the **higher cost of transferring**. Should a foreign investor decide to pull out its operation from the Philippines, it must think of the cost of pulling out current assets from host country, the cost of transferring assets and relocating to another country, and the cost of another gestation period. In connection, mining requires a long period of gestation before it can operate functionally. These costs are sufficient to discourage investors from pulling out as it is not cost-efficient.

Windfall tax

Windfall tax is a type of royalty which serves as a payment to the state for using its resources. Particularly, a windfall tax is levied on a percentage of production value based on a price scale. Countries that have a history of imposing this type of taxation are Zambia (repealed in 2009), Mongolia (2010), and Bolivia.

The strongest argument for windfall tax is its potential to be non-distortionary. Since a windfall tax will depend on who gained the most on a certain economic phenomenon, there is little to no chance of behavior change in a certain company. On the other hand, the greatest counterargument for such a measure is that companies are already required to pay other types of taxes and are averse to another type of taxation in general.

Windfall tax in Zambia was repealed in 2009 in response to appeals made by mining companies due to the global financial crisis. However, it was recently announced by Finance Minister Mwanakatwe that windfall tax will be reintroduced to ensure improved revenue.

Mongolia's windfall tax used to be the highest in the world levied at 68%. This was introduced to their country in the hopes of encouraging copper companies to process copper locally. However, the tax was repealed in 2011 in exchange for Ivanhoe Mine's precondition of establishing Oyu Tolgoi Mine, and as an act of encouraging foreign investment in the country.

It is not ideal to adopt a windfall tax scheme in the AMMB primarily because it defeats our goal of simpler taxation. The strength of the AMMB is its proposed income-based excise tax as opposed to other proposed bills which will base taxation on royalty value (Bantay Kita). Although the Mining Industry Coordinating Council (MICC) bill in essence makes taxation simpler, its oversimplification can result in a great loss in both government and investors' revenue and has a chance of affecting our fiscal stability.

Mining disaster trust fund

Trust funds are basically assets kept by a trustee for the future generation's use. Different types of trust funds can serve different purposes. In the case of a mining disaster trust fund, the goal is to be a source of funding in response to disasters incurred in the mining sector.

In the Philippines, revenues generated from the mining tax go into the national treasury. By having a trust fund, there can be a definite source of funding for future use. The AMMB can consider adopting this measure. This has a lot of potential for social welfare use, and can also be a possible political tool in favor of marginalized communities.

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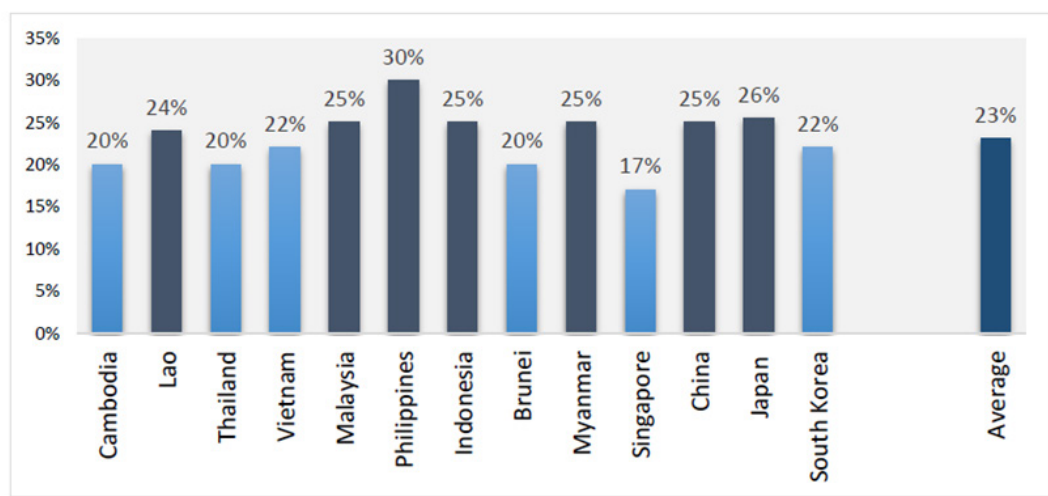
Appendices:

Exhibit 1: Comparative Economic Measures for Model Copper Mine in Select Countries

Country	Internal Rate of Return (in %)	Total Effective Tax Rates (in %)
<i>Lowest Taxing Quartile</i>		
Sweden	15.7	28.6
Western Australia	12.7	36.4
Chile	15.0	36.6
Zimbabwe	13.5	39.8
Argentina	13.9	40.0
China	12.7	41.7
<i>Second Lowest Taxing Quartile</i>		
Papua New Guinea (2002)	13.3	42.7
Bolivia	11.4	43.1
South Africa	13.5	45.0
Philippines	13.5	45.3
Indonesia (7 th , COW)	12.5	46.1
Kazakhstan	12.9	46.1
<i>Second Highest Taxing Quartile</i>		
Peru (2003)	11.7	46.5
Tanzania	12.4	47.8
Poland	11.0	49.6
Arizona (US)	12.6	49.9
Mexico	11.3	49.9
Greenland	13.0	50.2
<i>Highest Taxing Quartile</i>		
Indonesia (non-COW)	11.2	52.2
Ghana	11.9	64.4
Mongolia (2003)	10.6	55.0
Uzbekistan	9.3	62.9
Cote 'Ivoire	8.9	62.4
Ontario (Canada)	10.1	63.8

Source: Otto, 2004

Exhibit 2: Corporate Income Tax Rates, ASEAN Countries 2015



Source: PIDS

Exhibit 3: Corporate Income Tax Rates Across Groups

Region or Group	Corporate Income Tax Rate
Philippines	30%
Asia	20.05%
Southeast and East Asia	23%
World	22.96%

Source: Tax Foundation, pWc, KPMG, et al

EXHIBIT 4: Types of Tax and Reasoning Across Countries

Various countries implemented different types of taxes on their mining sector. As pointed out earlier, there is no standard type of taxes that shall be used. Instead, each country shall take into consideration its unique needs in crafting its tax policy.

a) Corporate income tax

In the status quo, almost all nations rely primarily on profit/income-based taxes, shifting away from the royalty-based type. Over the past century, a trend on de-emphasizing tax systems based on royalty can be observed. This comes in the form of corporate income tax.

In Southeast and East Asia, the average corporate income tax rate is at 23% (Exhibit 2). Laos, Malaysia, Indonesia, Myanmar, China, Japan, and the Philippines have rates higher than the average. Among these countries, the Philippines have the highest rate. Indonesia’s rate has decreased to 25% since 2008 while Thailand’s decreased to 20% since 2012.

Furthermore, the Philippines also has a high corporate income tax rate in comparison to the world's (22.96%) and Asia's (20.05%) rates (Exhibit 3).

b) Royalties

Despite the trend of shifting to a profit-based tax in mining, there are still a lot of countries that impose royalties on their minerals. The primary reason for this can be attributed to patrimony. Since the state generally considers the minerals as their resource, it wants to have something in return for the extraction of its resource. Royalties across countries vary and are often discriminated based on profitability.

In the case of the Philippines, royalty taxes range from 2% to 5% based on the type of mineral, and can also be levied based on volume, such as Php 10/metric ton of coal.

c) Excise tax

An excise tax is a tax levied primarily to alter behavior. This is commonly levied on products or goods that have a negative impact on society and the environment, such as vices and mining. Countries that levy this type of tax on mining companies include the Philippines (4%) and Chile (4-9%).

Overstating the Contributions of Mining to Regional Economies

By James Matthew Miraflor

This essay was first published on 15 February 2017 on the author's account in Medium. It is being reprinted here with permission from the author.

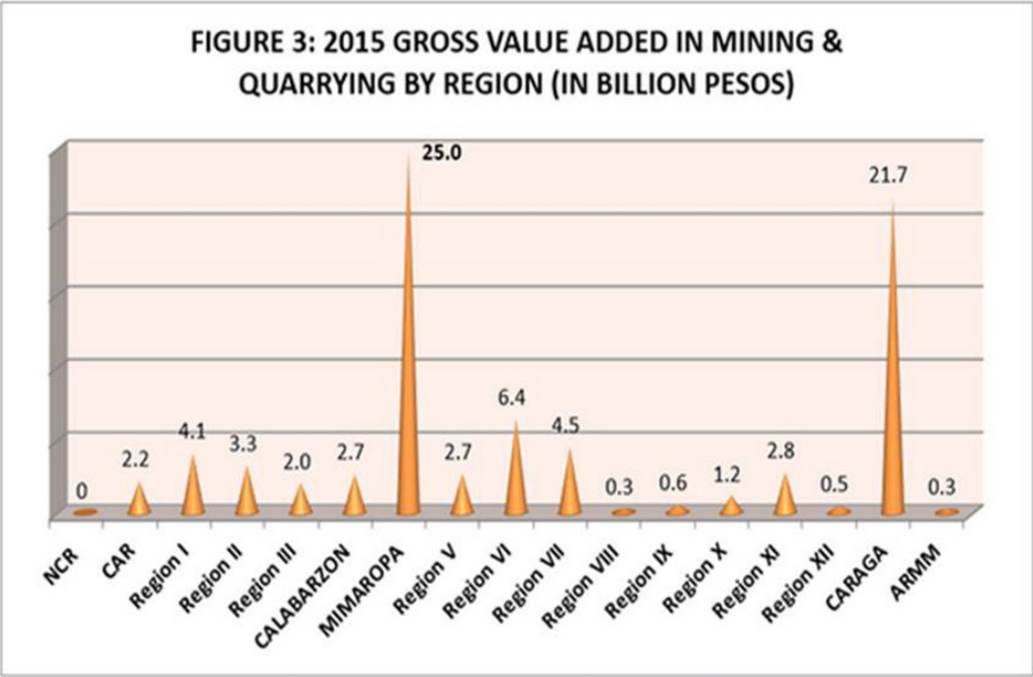
When former Philippine Environment Sec. Gina Lopez decided to cancel 75 mining contracts Sec. Gina Lopez decided to cancel 75 mining contracts¹, a national debate on the importance of the mining and quarrying (MAQ) sector in the economy flared up. On the one hand, you have former economic planning chief and UP School of Economics Professor Emeritus Solita “Winnie” Monsod exposing some facts²:

Is Gina Lopez dealing a mortal blow to the economy in protecting the environment? Is she being irresponsible? Look at the data: Mining industry statistics (as of Dec. 15, 2016) show that the gross value added in mining averaged about 0.65 percent of GDP for 2012–2016, and that includes nonmetallic mining. That is less than 1 percent of total GDP. Even if the entire mining industry goes under, GDP will decrease by less than 1 percent. What about exports? The same data indicate that the mining industry, both metallic and nonmetallic, accounts for about 5 percent of total exports. Employment? The industry accounts for about 0.6 percent of total employment.

On the other hand, here is Prof. Carlos Arcilla of the UP National Institute of Geological Sciences responding four days later³:

This is to answer Mareng Winnie Monsod and other people suggesting mining be stopped because it only contributes <1 % to the GDP. First only a SMALL part of the Philippines has mining activities—the graph shows that in CARAGA and MIMAROPA, contributions from mining exceeds 20%!! Now, when you AVERAGE mining contributions to include those places that have no mining, no WONDER why the national GDP contribution is <1 %. If we stop mining, we stop 25% of income in CARAGA and MIMAROPA. This is why taking averages is sometimes tyrannical. Maybe Mareng Winnie should take a break from Forbes Park and go to visit CARAGA and MIMAROPA to find out.

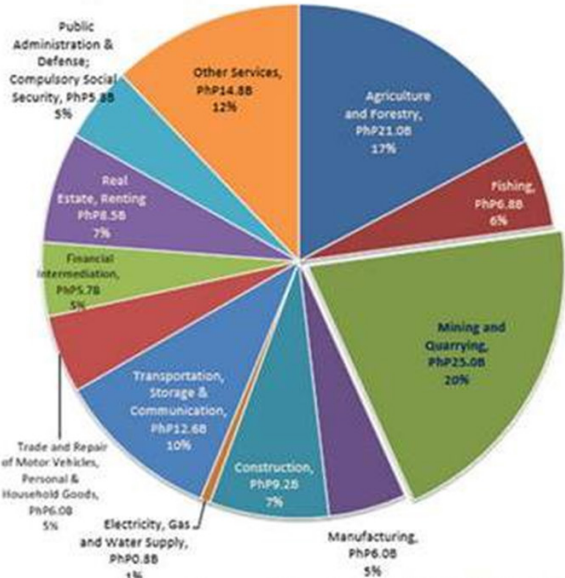
Prof. Arcilla then uploaded the following chart, probably from the Philippine Statistics Authority's (PSA) latest figures on the Gross Regional Domestic Production (GRDP)⁴:



Source: Extracted from PSA 2015 GRDP Highlights Table 3.1.1B

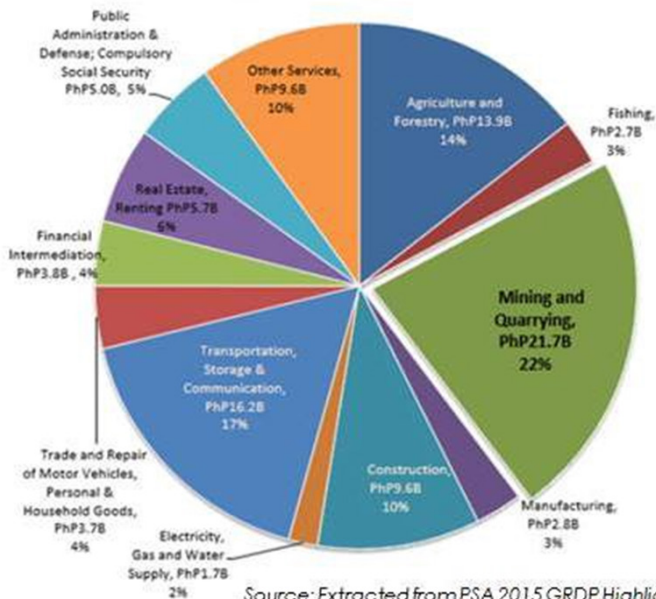
UPDATE (February 19, 2017): Just recently, he also posted another round of photos, this time on the breakdown of GRDP of MIMAROPA and CARAGA:

MIMAROPA GROSS REGIONAL DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN AT CONSTANT 2000 PRICES (CY 2015)



Source: Extracted from PSA 2015 GRDP Highlights Table 1.8B

CARAGA GROSS REGIONAL DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN AT CONSTANT 2000 PRICES (CY 2015)



Source: Extracted from PSA 2015 GRDP Highlights Table 1.8B

Mining is important in mining areas! These graphs from MIMAROPA and CARAGA show mining income is the most dominant. Since mining occurs in less than 3% of the country, averaging the income nationally will make its contribution small. It remains to be seen whether the green projects of Secretary Lopez proposed in MIMAROPA and CARAGA can attain these same percentages. It is definitely not true in Palawan, where mining is the biggest income source despite its being a top tourist destination. Ugong Rock, the ecotourism site managed by ABS CBN, is NOT in southern Palawan, and its tax earnings are definitely much less from mining. Also, geologically, north Palawan geology is very different from the south, where all mining is situated. Tourism and mining can coexist, but this is lost in the emotional sloganeering.

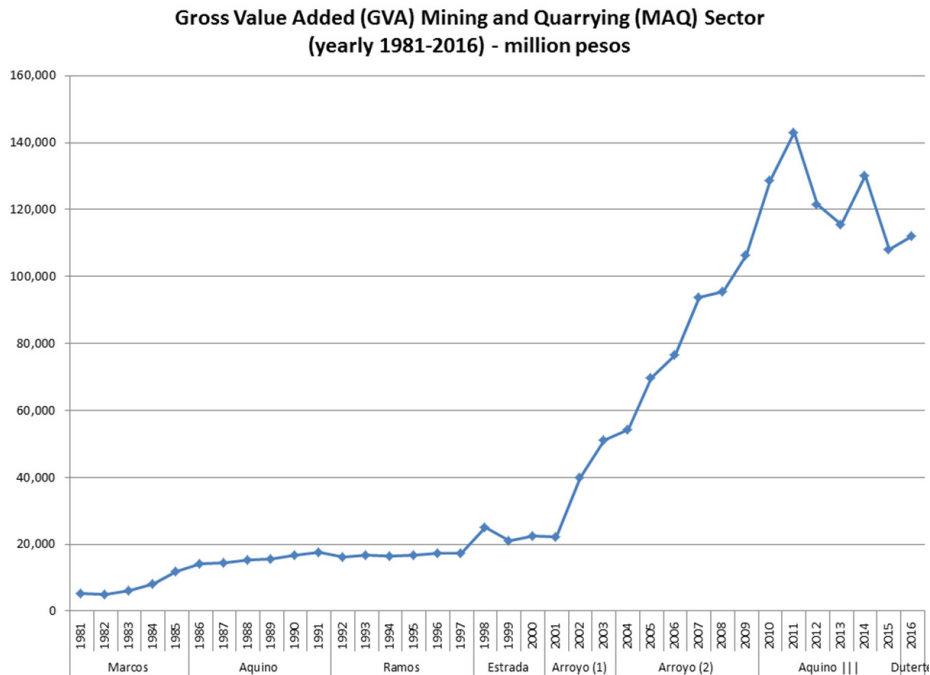
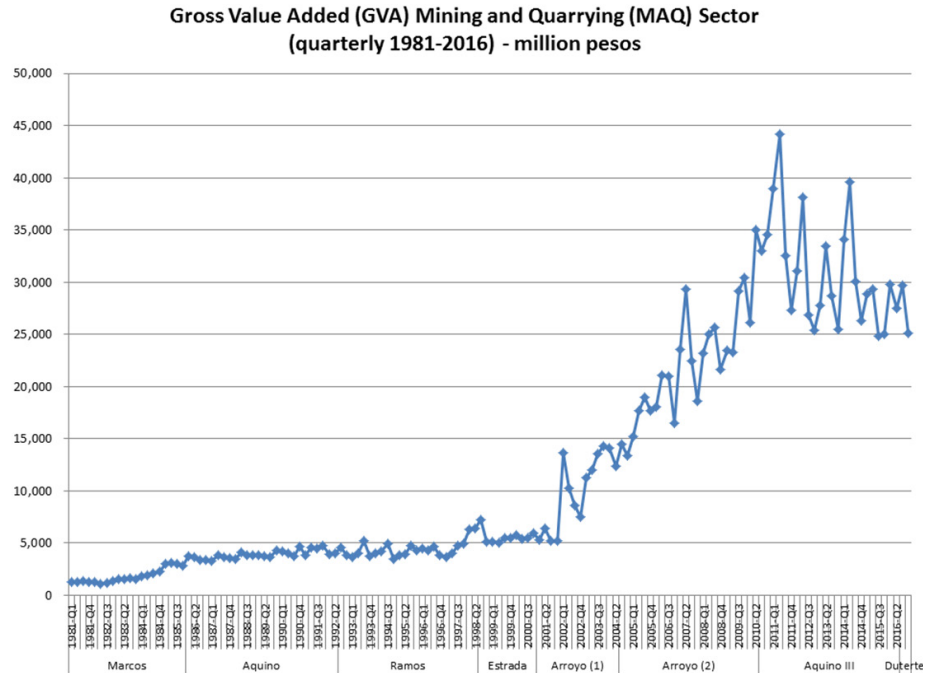
To summarize: Prof. Monsod is arguing how negligible the mining sector is with respect to the whole economy — which means that we can, as a country, practically live without it. Prof. Arcilla wants to emphasize that there are actually regions which are heavily dependent on the sector. So what now?

What is still missing in the picture is a more historical take on mining's role in national and regional economies. Has the share of the MAQ sector in the Philippine economy always been that small? Have CARAGA and MIMAROPA always been heavily dependent on MAQ for regional production? And how come MAQ's share in Cordillera's economy is so low, when Benguet was, for the longest time, the epicenter of Philippine mining activity? Consider that the Benguet Corporation, the Philippine's first and oldest mining company (gold, copper, and chromite), has been operating in the area (specifically Itogon) since 1903.

Mining and the post-EDSA economy

To answer these queries, we further mine the official data from the National Accounts of the Philippines (NAP) and the Regional Accounts of the Philippines (RAP), both released by PSA. We specifically look at the MAQ data from the last leg of the term of former President Ferdinand Marcos (when he lifted Martial Law on paper) to the end of the term of former President Benigno Aquino. Unless specified, we will be using current rather than constant values.

Here are some facts:



As we can see in the first two charts, the MAQ sector has shown steady growth from the 1986 EDSA I revolution to the 2001 EDSA II revolution — then a rapid pace of (more volatile) growth starting from 2002, during the time of former President Gloria Arroyo. Interestingly, it was Arroyo, then a senator under the Ramos administration, who championed Republic Act 7942, or the Mining Act of 1995.

MAQ’s Gross Value Added (GVA) doubled from 2001 to 2002, and grew a little bit more slowly from 2002 to 2003, and from 2003 to 2004. In December 2004, the Supreme Court affirmed the Mining Act as well as the state’s authority to enter into Financial or Technical Assistance (FTAA) with foreign mining firms⁵ — which explained another big boost that lasted until the end of Arroyo’s term. By the time the Arroyo administration ended, the MAQ sector had grown almost seven times.

The MAQ sector slowed down during the administration of former President Benigno Aquino III. It started in 2011, when the administration created a mining study group which included the executive secretary and several members of the Climate Change Adaptation and Mitigation Cabinet Cluster. Executive Order 79⁶ was released, which banned mining in tourism areas, critical ecosystems, prime agricultural lands, fisheries zones, among others. In 2013, however, the ban was lifted⁷ — which caused a new round of growth in 2013.

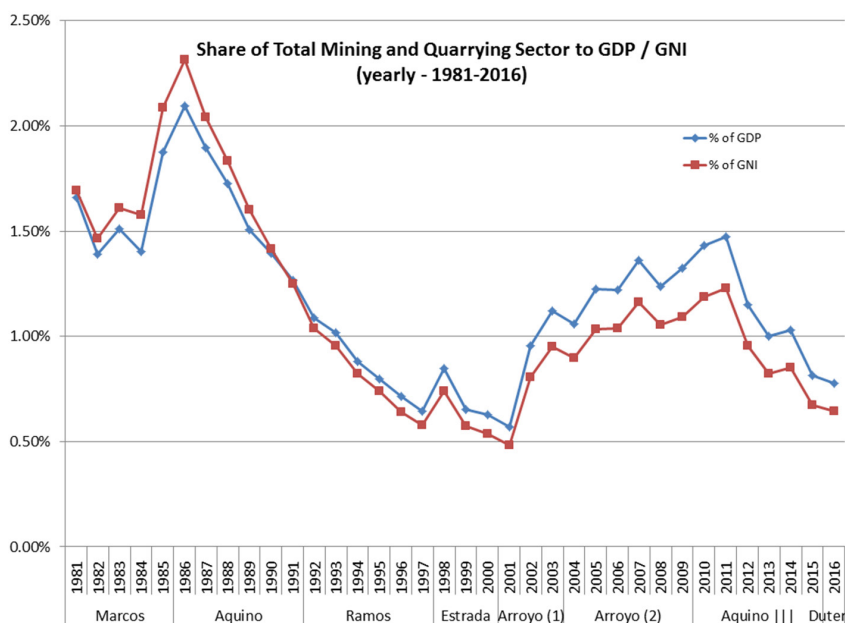
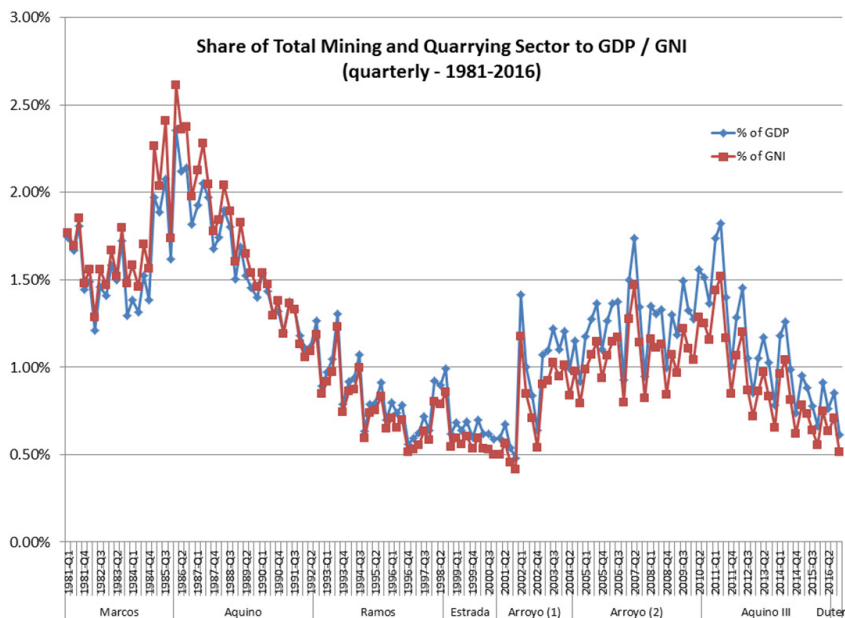
As an aside, if we look at the composite stock market index of mining and oil versus the total, we can clearly see the effect of Aquino’s EO 79 on confidence in mining stocks.



Source: Bangko Sentral ng Pilipinas (BSP)

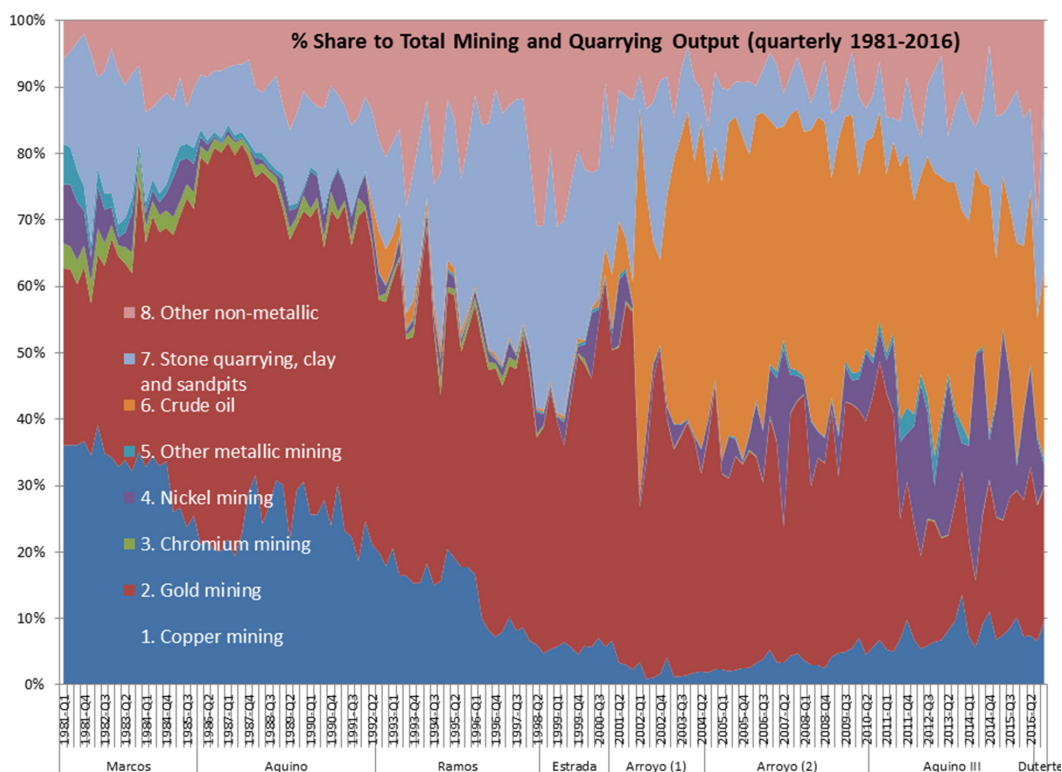
Of course, we have to contextualize this growth with the fact that the GVA figures are in nominal terms. The rise would be less steep if we use constant terms, say, if we peg prices to 2000 or 1985 levels. Moreover, the rest of the economy is also growing — which means the macroeconomic importance of mining cannot be seen by looking at GVA figures alone; we have to take mining's share of the total economy.

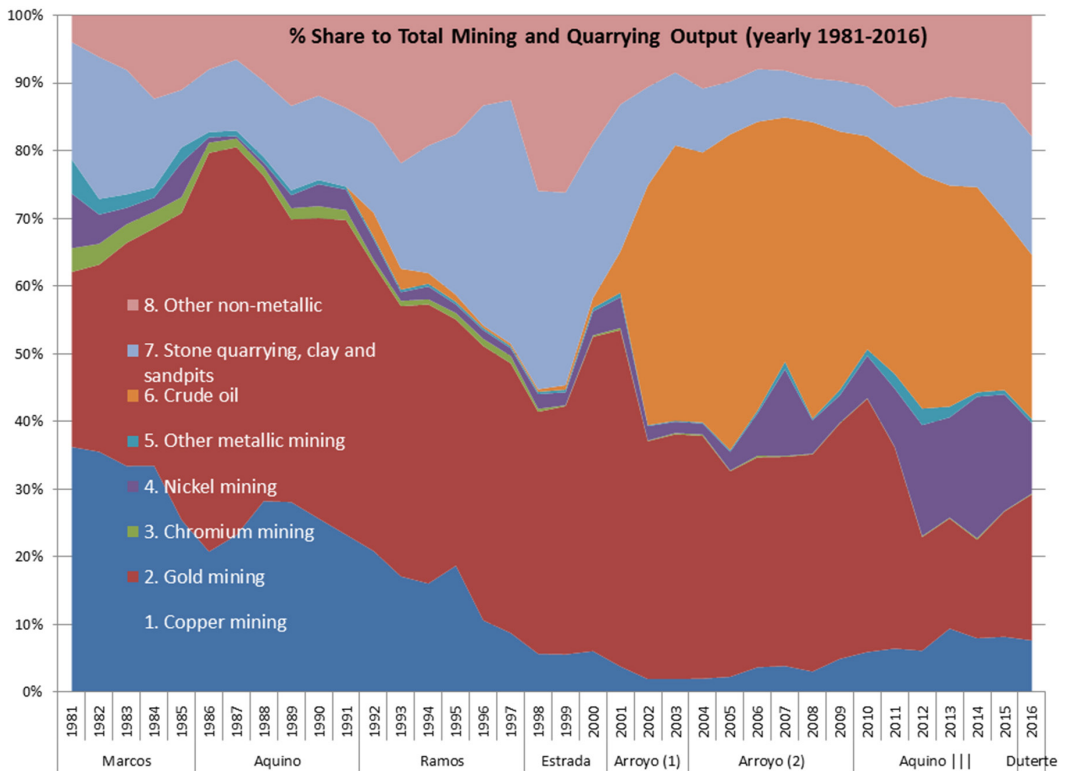
The next two charts give us quarterly and yearly pictures of the MAQ's share of the total economy. The data confirms Prof. Monsod's claim — even if we account for the data from 1981 onwards, the share of the MAQ sector never exceeds 2.5%. Once again, we notice the rise of mining during the Arroyo period, reversing the decline in MAQ's share from 1986 to 2001 with a sudden boom in 2002. We also notice the decline of MAQ during Aquino III's time, with a slight uptick when EO 79 was lifted in 2012.



That mining reached its peak in the last 35 years during the final years of the Marcos presidency is not surprising — we know that metallic and nonmetallic mineral commodities are good hedges during severe financial crisis. Prior to Sec. Lopez’s crackdown on mining sites, stock prices of mining companies — especially gold — usually surged when the economy slowed down or the stock market index growth dipped. We can imagine, for example, the capital flight during the 1986 EDSA revolution and the subsequent unrest of 1987 only made Filipino billionaires hold on tighter to their commodity assets. A similar tick was noticed during the election of President Joseph Estrada.

The next two charts show us the dynamics of the structure of the MAQ sector. As we can see, there was a steady decline in the share of copper mining in the overall industry, edged out by quarrying and nonmetallic mining. What is notable is how much the structure changed from the last year of Estrada onward due to a sudden hike in crude oil mining. One particular reason stands out — it was discovered in 2000 that Malampaya wells in the West Philippine Sea not only contains natural gas, but crude oil as well⁸, equivalent to 15% of crude oil imports in 1999.



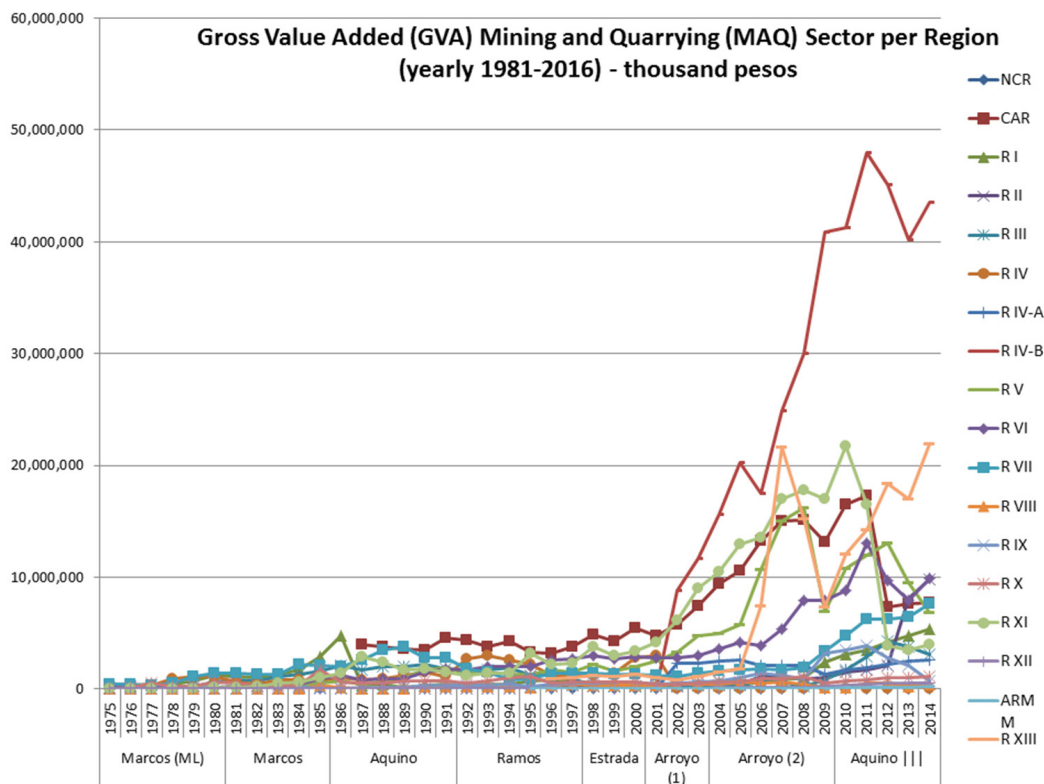


There was also a steady increase in the share of nickel production during Arroyo's tumultuous second term. Remember that this was the period, pre-NBN-ZTE deal, that the Arroyo administration was courting Chinese investments left and right. The mining sector was not exempt. In 2006, Chinese firm Jinchuan Non-ferrous metals Corp. invested \$1-billion in the Nonoc nickel project in Surigao del Norte⁹. Also that year, Aglubang Mining Corp. expressed its intention to develop a large-scale nickel project in Mindoro¹⁰.

Mining and the regional economies

That these investments were targeted to specific provinces just demonstrates the obvious fact that extractive industries, by nature, are local industries — the increase and decrease in production is geographically concentrated. Unlike, say, food manufacturing, the products of MAQ sectors is usually consumed entirely elsewhere, and not where it was mined.

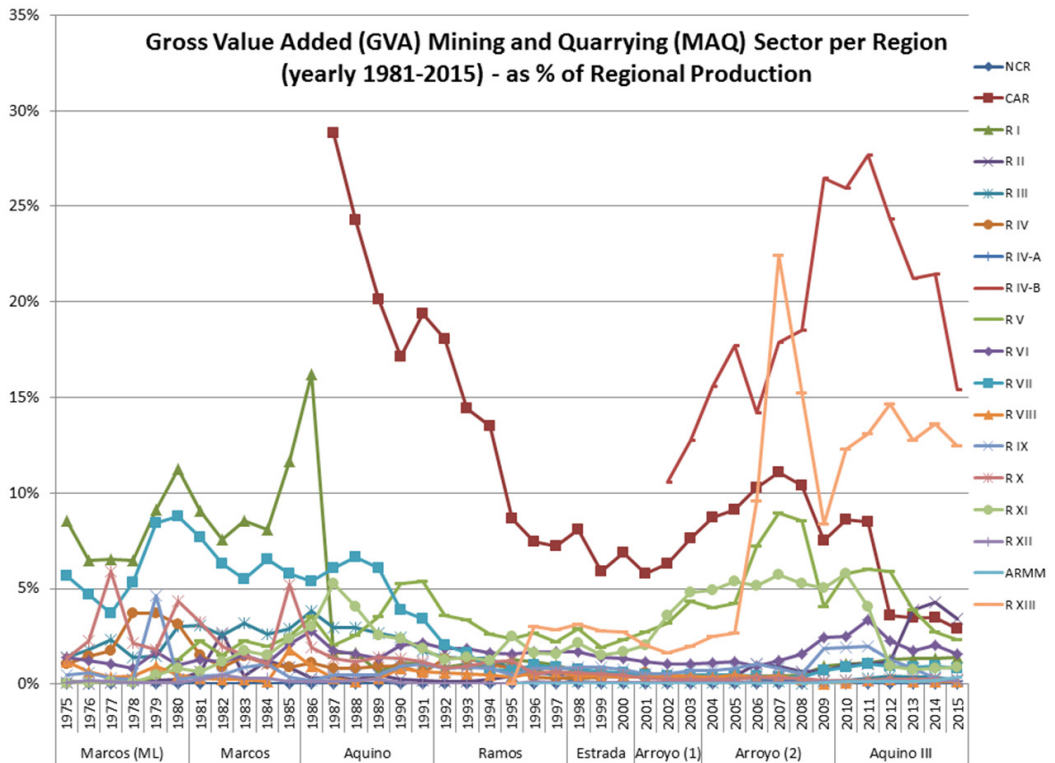
It is thus important to look at how the regional MAQ sectors evolved — in absolute terms, vis-à-vis the national MAQ sector, relative to each other, and relative to the regional economies. From here, we can have a sense of whether the MAQ sector really forms an integral part of certain regional economies, like CARAGA or MIMAROPA.



Looking at the regional evolution of the MAQ GVA, we will notice that prior to 2001, the Cordillera Administrative Region (CAR) held the top rank among regions in terms of mining production. This was already so when it was created in 1987 (notice that it took a huge part of the Ilocos MAQ production). As we hinted earlier, this makes sense, since Benguet has been a traditional mining hotspot in recent Philippine history. The Davao region is also a known mining hotspot, given that it has Mt. Diwalwal in Compostela Valley which is said to hold the largest gold deposits in the country¹¹.

But what explains the sudden boom in MIMAROPA and CARAGA? We are not sure yet (as we have no access to regional-subsector data), but our earlier data shows that this coincides with the surge in crude oil production due to Malampaya (in MIMAROPA) and nickel in Surigao del Norte (in CARAGA). One can hypothesize that much of MIMAROPA's supposedly mining activity is in crude oil; for CARAGA, it is probably nickel. **We can thus better contextualize Prof. Arcilla's claim of mining's importance in the MIMAROPA with this data: at least for MIMAROPA, DENR's latest actions did not target crude oil.**

This brings us to Prof. Arcilla's claim on the importance of MAQ in specific regional economies. We then look at the MAQ GVA as share of the total Gross Regional Domestic Product (GRDP) across the years, and not just 2015. Here, we see that things were never static — the dependence on mining of certain regions was never intrinsic to them.



For instance, consider the decline in the MAQ share of CAR's GRDP — from a peak of almost 30%, a mere generation (30 years) had reduced it to less than 5%. In fact, EO 79 alone was responsible for arresting the recovery of CAR's share during Arroyo's term, halving the figure in just one year. This showed that a local economy can transition from being extractive industry heavy to a more mixed one, and regulatory policies don't necessarily have a debilitating effect — even as it drastically changes the regional economic structure.

At this point, we can safely ignore MIMAROPA's rise for now — assuming that much of its MAQ production is actually crude oil (there might also be substantial production in Romblon). Let us focus instead on CARAGA. Our earlier hypothesis was that a huge part of nickel production was actually jump-started by Chinese investments just before Arroyo's NBN-ZTE scandal, thus the spike in 2005.

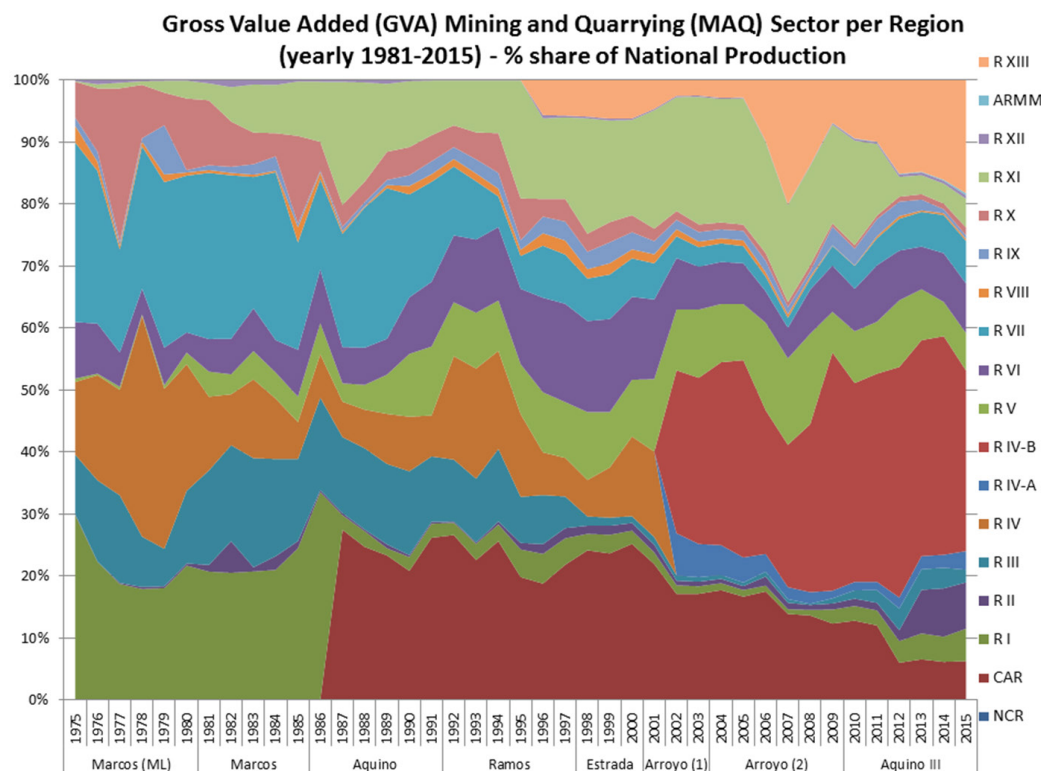
But what is interesting is that it took CARAGA only a year to raise its MAQ share from 9.6% to 22.4%. And then it only took the region two years to reduce its share back to 8%! **This shows us that we really shouldn't fetishize MAQ share of GRDP as a figure — it can and it has drastically changed from year to year, and it really doesn't point out how important mining is to the regional economy.** In any case, we also have demonstrated that it is possible for a regional economy to transition away from MAQ, as in the case of CAR, and to a lesser extent, Davao.

Besides, we have to take note of the accounting procedure. While GRDP points to regional production, it does not give us a clue on regional income. We know that many local mining companies are usually foreign-owned, which means that while their production is counted as

production within the region, the profits (which constitutes a large share of the revenue) are usually repatriated to home countries.

One fact before we proceed: there was once substantial mining in Central Visayas rivaling that of Ilocos (which then included CAR). This can be a point of further investigation.

How about the share of the local MAQ sector in the national MAQ production? The next chart gives us that:



As we can see, MIMAROPA's rise really resembles the crude oil rise in the earlier charts (notice also how Region IV was split into two in 2001, and well it coincides with the sudden boom of MAQ in MIMAROPA). Right now, it dominates the national MAQ sector, but that wasn't always the case. Central Visayas share also shrunk during the post-EDSA I, pre-EDSA II period.

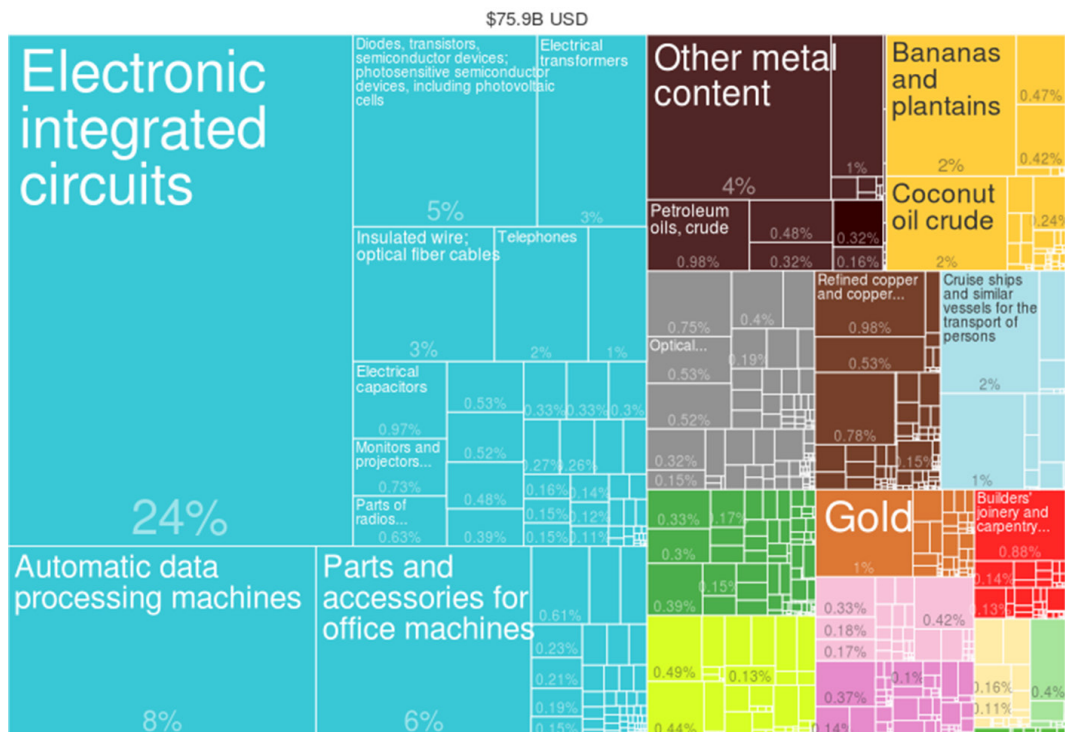
Davao region's share shrunk precipitously since Arroyo took over, largely replaced by CARAGA. In the recent years, this may have been due to then-Mayor Rodrigo Duterte's declaration of moratorium¹². The cancellation of tax exemption of small-scale miner's cooperatives sale to the Bangko Sentral ng Pilipinas (BSP)¹³ might have also forced some miners to go to the black market, thus escaping national accounting.

Cagayan, on the other hand, seems to be growing fast, and Ilocos (sans CAR) seems to be steadily growing its local MAQ share to national MAQ. The alleged proliferation of illegal black sand mining in those two regions¹⁴ may have helped increase mining production, though it has not been without severe environmental consequences.

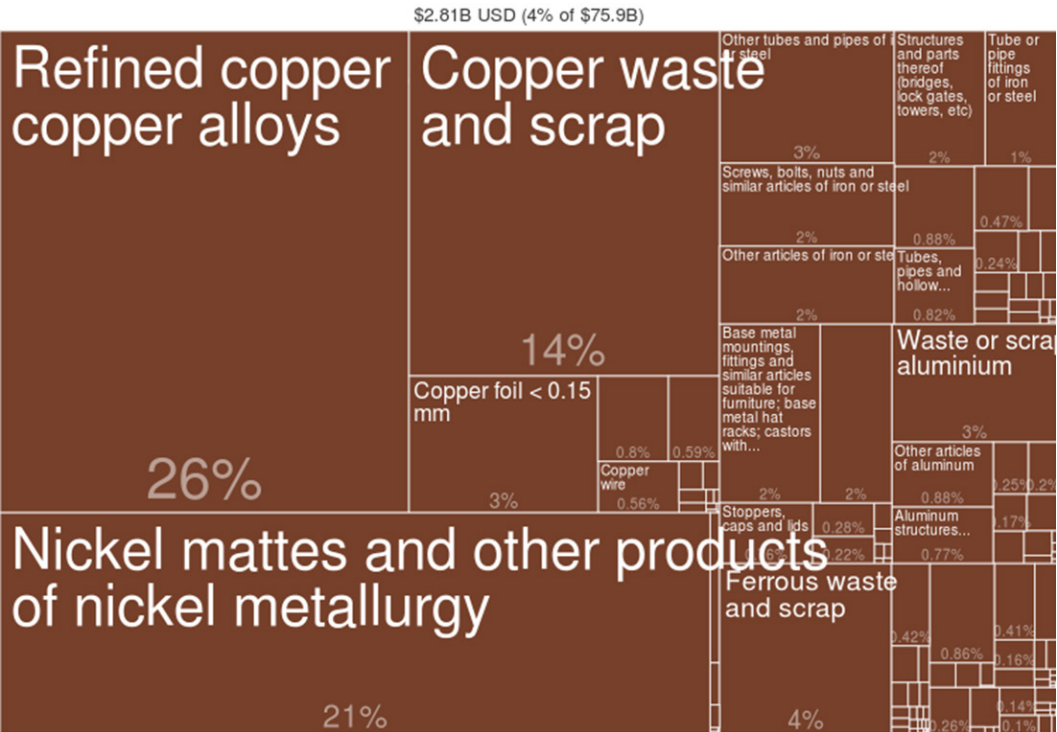
Mining and Philippine exports

Finally, we come to the claim of exports. For the data for this entire chapter, we used Harvard-MIT's Atlas of Economic Complexity¹⁵, which monitors trade across countries and across products.

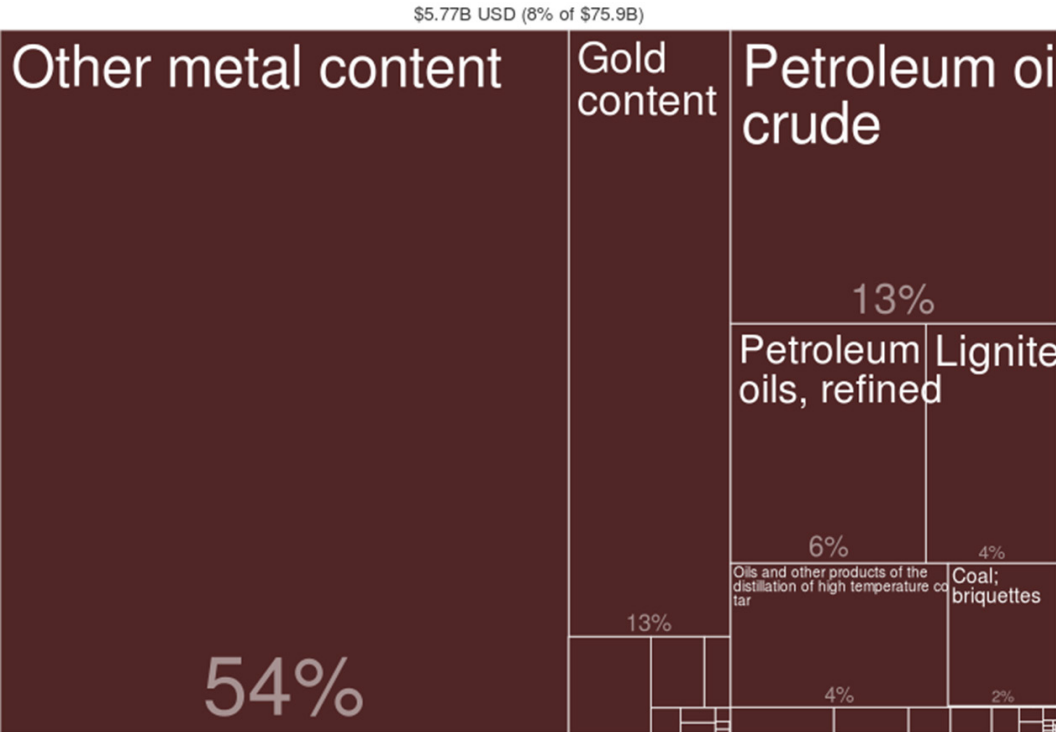
Prof. Monsod claims that the share of mining in Philippine exports is just 5%. We can be more generous and include not just the entire MAQ sector, but also refined and manufactured metallic and nonmetallic exports as well as the stone and glass sub-sector — we will end up with just 14%. Setting aside petroleum products, mining exports are dominated by gold and gold content, other metal content, copper, and nickel. This mirrors closely our data on the MAQ structure.



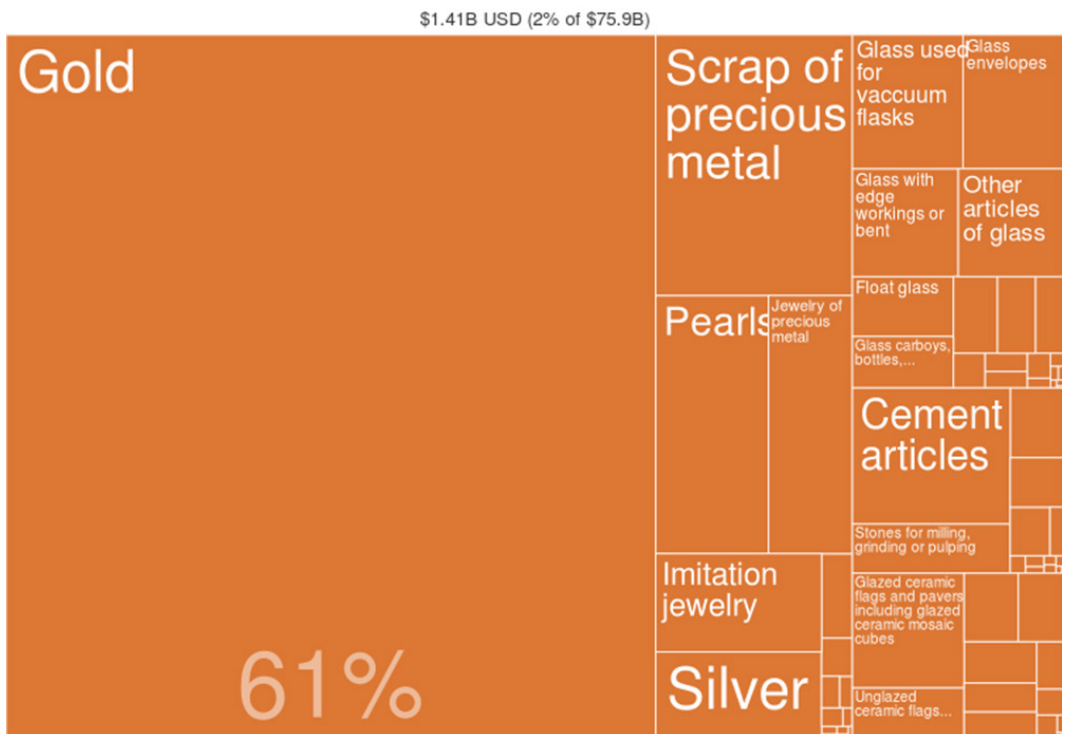
We can actually zoom in on each sub-sector to see their composition:



Philippine Metal Exports (2014)

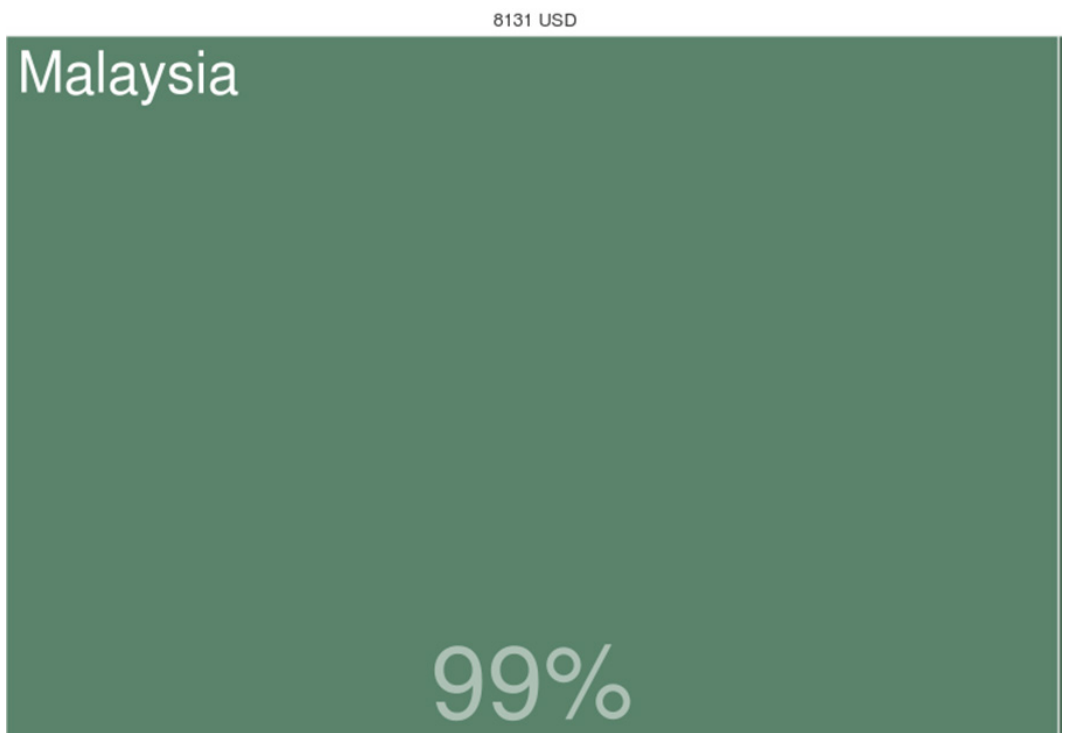


Philippine Mineral Exports (2014)

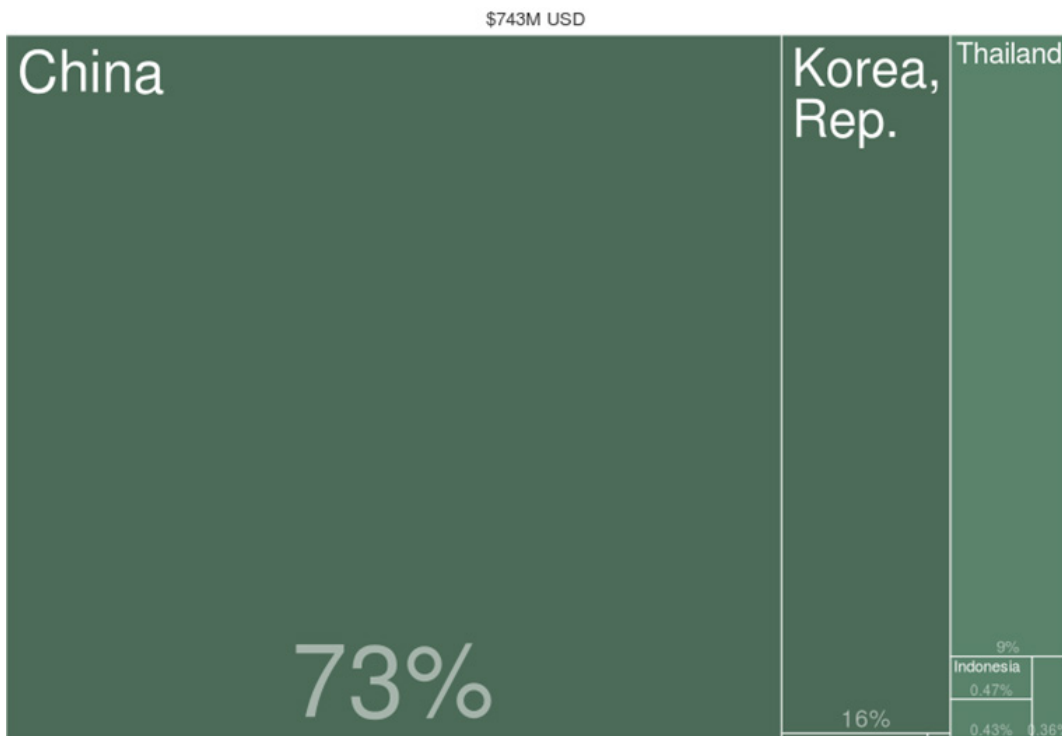


Philippine Stone/Glass Exports (2014)

To check out where those exported minerals are actually going, we can sample a few products. For unrefined copper, almost all of it goes to Malaysia. For refined copper and copper products, China takes 73%.

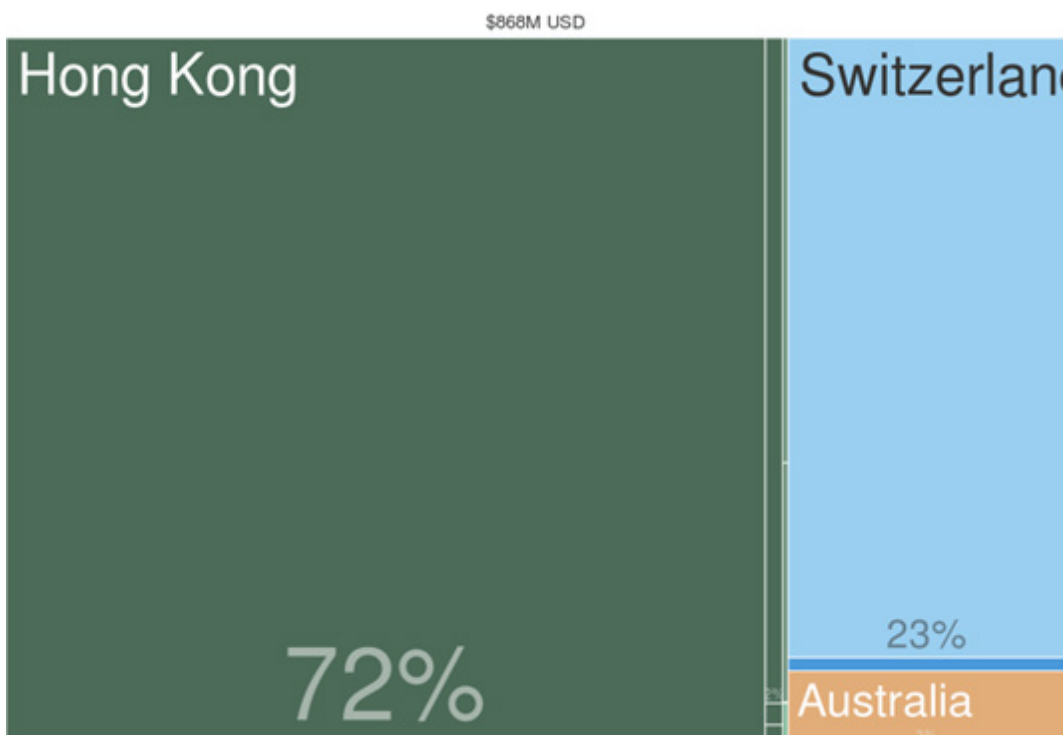


Where did the Philippines export unrefined copper in 2014?



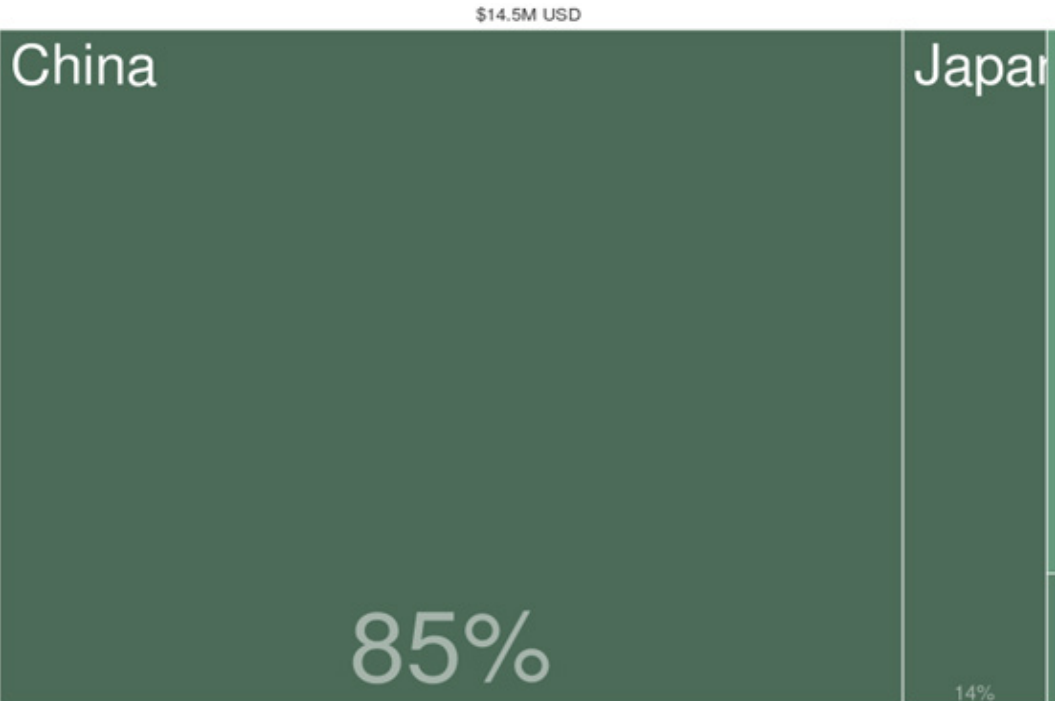
Where did the Philippines export refined copper and copper alloys in 2014?

For gold, the trade is dominated by Hong Kong, where it is probably processed and exported elsewhere.



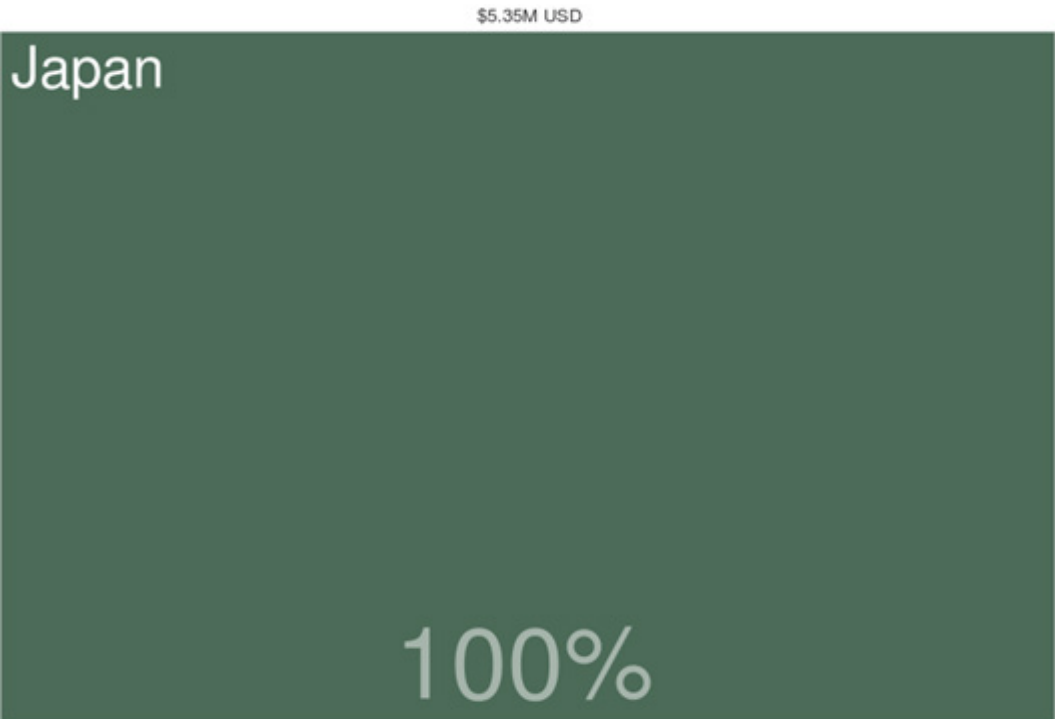
Where did the Philippines export gold in 2014?

For chromium ore, China takes the lion's share.



Where did the Philippines export chromium ore in 2014?

For unwrought nickel, all of it goes to Japan. We have to examine the rest of the nickel products since it was recently reported that the Philippines is now the top exporter of nickel to China¹⁶.



Where did the Philippines export unwrought nickel in 2014?

We can, in the future, try to analyze the impact of these countries on local economies. It is not imprudent to suspect, for instance, that targeted aid is given by specific countries to specific regions because their mining companies are there.

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About the Contributors

Maya Quirino is the legislative advocacy coordinator of the Legal Rights and Natural Resources Center, and concurrent coordinator of the SOS Yamang Bayan Network. Maya has a degree in English Literature from the Ateneo de Manila University and was a fellow of the Siliman National Writers' Workshop.

Rio Dayao is a researcher with the Action for Economic Reforms. He has a degree in Economics from the University of the Philippines in Diliman.

James Matthew Miraflor is finishing his MS in Computer Science at the UP College of Engineering and his MA in Economics at the UP School of Economics. He was a lead consultant for the National Anti-Poverty Commission on developing a data poverty warehouse called Talambayan, and a Junior Statistical Consultant on Decent Work Country Diagnostics for the International Labour Organization (Philippines Office). He was a former vice president of the Freedom from Debt Coalition and sits on the board of the Institute for Popular Democracy.

Padmapani Perez, Ph.D. is an anthropologist by training and a writer by heart. Her research focuses on human dimensions of environmental issues, particularly the problematic intertwining of indigenous peoples' rights and biodiversity conservation. She is the author of *Green Entanglements: nature conservation and indigenous peoples' rights in Indonesia and the Philippines* (2018, University of the Philippines Press). She is currently a Research Fellow at Far Eastern University.

Jessica Salas, Ph.D. is the chair of the Metro Iloilo Water District, and the Iloilo Watershed Management Council. She obtained her doctoral degree in Education from the Central Philippine University in 1981. Dr. Salas was a Fellow at the Cornell Institute on Food and Agriculture, Cornell University, from 2004 to 2005.

Kabilin

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The Alternative Minerals Management Bill (AMMB) is a radical rethinking of how we manage minerals. Departing from the profit-centric agenda of the 1995 Mining Act, the AMMB argues that mining — a destructive and disruptive activity — can only be allowed under the most stringent conditions; evaluating mining applications must be based on environmental, social, cultural, and economic considerations. This first volume in the AMMB series by *Kabilin* is dedicated to policy and research papers that thresh out issues related to the AMMB or that support provisions in the AMMB on fiscal regime, watersheds, and the participation of indigenous peoples.



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