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Extractive Industries and the Financing of Child-Inclusive Social Development in the Philippines

Trends and Policy Frameworks

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prepared for the UNRISD/UNICEF project on

Mobilizing Revenues from Extractive Industries:
Protecting and Promoting Children's Rights and Well-Being
in Resource-Rich Countries

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Introduction to Working Papers on Mobilizing Revenues from Extractive Industries: Protecting and Promoting Children's Rights and Well-Being in Resource-Rich Countries

This paper is part of a series of outputs from the UNRISD and UNICEF research project on Mobilizing Revenues from Extractive Industries: Protecting and Promoting Children's Rights and Well-Being in Resource-Rich Countries.

The project seeks to contribute to knowledge creation and institutional learning processes within the partner organizations; to bring knowledge to national and international debates about channelling revenues from mineral extraction towards social policy and investments in children; and to examine public finance mechanisms, economic and social policies, and political conditions that are conducive to this end.

More specifically, it aims to:

- advance knowledge and understanding of the linkages between extractive industries and public policies as they relate to children's rights and well-being in Mongolia, Papua New Guinea and the Philippines; and
- advance knowledge and understanding of the political processes and institutions that impact on revenue mobilization in Mongolia, Papua New Guinea and the Philippines.

For further information on the project visit http://www.unrisd.org/eiandchildren.

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Acronyms

ADSDPP	Ancestral Domain Sustainable Development Protection Plan
AEPEP	Annual Environmental Protection and Enhancement Program
AFRIM	Alternate Forum for Research in Mindanao
ARMM	Autonomous Region of Muslim Mindanao
BIR	Bureau of Internal Revenue
BLGF	Bureau of Local Government Finance
BOI	Board of Investments
BSP	Bangko Sentral ng Pilipinas
CADT	Certificate of Ancestral Domain Title
CAR	Cordillera Autonomous Region
CDP	Community Development Program
CHED	Commission on Higher Education
CHR	Commission on Human Rights
CLRF	Contingent Liability and Rehabilitation Fund
CTA	Court of Tax Appeals
CWC	Council for the Welfare of Children
DAR	Department of Agrarian Reform
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DILG	Department of Interior and Local Government
DOF	Department of Finance
DoH	Department of Health
DOJ	Department of Justice
DOLE	Department of Labour and Employment
DSWD	Department of Social Welfare and Development
ECC	Environmental Clearance Certificate
EITI	Extractive Industries Transparency Initiative
EMB	Environmental Management Bureau
EO	Executive Order
EPEP	Environmental Protection and Enhancement Program
FPIC	Free Prior and Informed Consent
FTAA	Financial and Technical Assistance Agreement
GDP	Gross Domestic Product
HUDCC	Housing and Urban Development Coordinating Council
ICC	Indigenous Cultural Community
ILS	Indigenous Learning System
IP	Indigenous Peoples
IRA	Internal Revenue Allotment
LGC	Local Government Code
LGPMS	Local Governance Performance Management System
LGU	Local Government Unit
MGB	Mines and Geosciences Bureau
MMT	Mining Monitoring Team
MOA	Memorandum of Agreement
MPSA	Mineral production sharing agreement
MRF	Mine Rehabilitation Fund
MRTF	Mineral Reservation Trust Fund
NCIP	National Commission on Indigenous People
NCR	National Capital Region
NEDA	National Economic Development Authority

NGO	Non-Government Organization
NIRC	National Internal Revenue Code
NSCB	National Statistical Coordination Board
NSO	National Statistics Office
OSHC	Occupational Safety and Health Center
PH-EITI	Philippine EITI
PHP	Philippine peso
PMRB	Provincial Mining Regulatory Board
PNP	Philippine National Police
RCF	Rehabilitation Cash Fund
SDMP	Social Development and Management Program
SSM	Small-Scale Mining
TESDA	Technical Education and Skills Development Authority
UNICEF	United Nations Children's Fund
VAT	Value Added Tax

Summary

This paper—which contributes to the project on Mobilizing Revenues from Extractive Industries: Protecting and Promoting Children's Rights and Well-Being in Resource-Rich Countries , undertaken jointly by UNRISD and UNICEF-EAPRO—seeks to assess whether the revenues from the extraction of mineral resource of the Philippines provides the best opportunities for children's welfare. It examines the effectiveness of different government policies in translating the revenues from mining to social and economic programmes that may benefit children. It also describes the macroeconomic contribution of metallic mining and summarizes the existing literature on the environmental and social impacts of mining in the country.

The paper then examines the revenue and expenditure patterns of the national and local governments and how government spending relates to children's rights and well-being. It finds, despite being one of the most resource-rich countries in the world, that the Philippines has failed to translate these resources into an engine for growth and development, particularly for children. Indeed, the current sharing scheme on the revenues from the extraction of resources between the state and the contractors is clearly disadvantageous to the government, as the current tax rates and royalties are relatively low compared to other mineral-rich countries. In turn, the spending pattern of local governments does not reflect prioritization of basic social services, intergenerational equity and prioritization of children in spending proceeds from extractive activities. Instead, the poverty incidence of children in mining provinces is higher than the national average, while children in mining regions have often become victims of environmental destruction, human rights abuses and child labour, which is primarily due to weak regulatory capacity of the government. Policy recommendations on how to address these issues are furnished in the conclusion.

At the time of writing this paper, Cielo Magno was Assistant Professor at the University of the Philippines' School of Economics and the National Coordinator of Bantay Kita, the Publish What You Pay Coalition in the Philippines.

Introduction

The Philippines is one of the most mineral-rich countries in the world. The estimated value of the country's mineral resources is around USD 840 billion (Minerals Development Council 2007). The Mines and Geosciences Bureau (MGB) reported the country's metallic mineral reserves to be about 7.1 billion tons and the non-metallic resources to be about 51 billion tons in 1996. The Philippines ranks third in gold, fourth in copper, fifth in nickel and sixth in chromite in terms of occurrence per unit area (BOI 2011). Every region of the country has significant deposits of gold, copper, nickel, chromite or zinc. The mineral resource inventory of key minerals of the Philippines by region is in Annex A.

The Philippine government has harnessed these resources for over a century, yet poverty levels in the country remain high and revenues from resource extraction has been unable to make a discernible dent on poverty. Resource-rich countries like the Philippines have the potential to use their natural wealth to address economic inequalities, particularly for the more vulnerable sectors. However, the observed gap between resources and poverty suggests myriad problems regarding the management of resources and the government's spending priorities. It also raises questions about the equitable use of resources not just within the current generation, but also between the present and the future generations.

It is the policy of the Philippine government to exert every effort "to promote the welfare of children and enhance their opportunities for a useful and happy life".[1] This paper analyses whether the extraction of mineral resource of the country provides the best opportunities for children's welfare and well-being. To this end, it assesses whether the mining fiscal policies are sufficient to internalize the negative effects of mineral extraction, and it examines the effectiveness of different government policies in translating the revenues from mining to social and economic programmes that may benefit children. The paper begins with a description of the legal framework of metallic mineral extraction in the Philippines, and proceeds to discuss the fiscal policies governing the metallic mining industry, including the manner in which the proceeds from extraction is shared by national and local governments. After this, it provides a description of the macroeconomic contribution of metallic mining and a summary of existing literature on the environmental and social impacts of mining in the country, and then examines the revenue and expenditure patterns of the national and local governments and how government spending relates to children's rights and well-being. The paper concludes with policy recommendations on ways to further improve the utilization of resources to contribute to children's well-being.

This paper uses the industry data from the MGB, social indicators from the National Statistical Coordination Board (NSCB), and finance data of local governments from the Bureau of Local Government Finance (BLGF) in its analysis.

Legal Framework on the Ownership and Utilization of Natural Resource in the Philippines

This section discusses the legal framework that governs the extraction of metallic minerals in the Philippines with special focus on fiscal policies governing the industry. Article XII of the 1987 Constitution of the Philippines provides for the full control by the government of the exploration, development and utilization of the country's natural resources, reaffirming the Regalian Doctrine of state ownership of natural resources already present in the country's

[1] Republic Act No. 7610.

previous constitutions.[2] The Constitution allows the government to directly explore, develop and utilize the natural resources or enter into agreement with private enterprise—with the limitation that the private enterprise be at least 60 per cent Filipino-owned. It specifies the duration of such agreements to be 25 years and can be renewed for another 25 years subject to conditions provided by enabling laws. The Constitution also allows the government to enter into a Financial and Technical Assistance Agreement (FTAA) with foreign-owned corporations for large-scale exploration, development, and utilization of minerals, petroleum and other mineral oils. This type of agreement allows for 100 per cent foreign ownership of mining operations.[3]

Ancestral domain rights, which are considered private lands owned by indigenous peoples, are also recognized in Section XII, Section 5 of the Constitution, and enabled through the Indigenous People's Rights Act of 1997. The said law also requires their free prior and informed consent (FPIC) before resources are extracted in their areas.

Types of mineral agreements for large-scale metallic mining

There are four modes of mineral agreement for large-scale mining operations under the Mining Act of 1995:

i. **Mineral production sharing agreement (MPSA)**—The government grants the contractor exclusive rights to conduct mining operations within a contract area and share in the gross output. The contractor provides the financing, technology, management and personnel necessary for the implementation of this agreement. Foreign ownership cannot exceed 40 per cent under this agreement.

ii. **Co-production agreement**—The government provides inputs to the mining operations. The government share of the gross output is to be negotiated between the government and the contractor.[4]

iii. **Joint-venture agreement**—A joint-venture company is set up by the government and the contractor with both parties having equity shares. Aside from earnings in equity, the government is entitled to a share in the gross output.

iv. **FTAA**—This agreement allows 100 per cent foreign equity participation/ownership.

Only the FTAAs require the approval of the President while the other types of contracts may be approved by the Secretary of the Department of Environment and Natural Resources (DENR). The Government also issues exploration permits valid for two years and can be renewed upon the recommendation of the MGB for another two years.

As of the end of 2014, there are 339 approved and registered MPSAs (601,679.3 hectares), 6 FTAAs (108,872.5 hectares), 36 exploration permits (115,150.4 hectares), and 98 mineral processing permits. There are 1,864 applications for the different permits under process

[2] The Regalian Doctrine translates to the state's power to control the disposition, exploitation, development or utilization of the natural resources of the country (Republic of the Philippines 2000). It does not preclude recognition of private rights over land. What the doctrine provides is that public lands that are not demonstrated to have been reclassified or released as alienable agricultural land or alienated to a private person by the state, remain part of the inalienable public domain. Applicants for land registration have the burden of proving that the land subject of the application is alienable or disposable. To overcome this presumption, incontrovertible evidence must be presented to establish that the land subject of the application is alienable or disposable (Republic of the Philippines 2012a, 2012b).

[3] La Bugal B'laan Tribal Association Inc. v. Secretary of the Environment G.R. No. 127882. 1 December 2004.

[4] Mineral royalties or government shares in the extraction of minerals are collected by the Mines and Geosciences Bureau.

(MGB 2015). Among the approved FTAAs and MPSAs, only 43 large-scale metallic mines are operating as of end-2014.

Royalties, taxes and fees of the large-scale mining industry

Table 1 summarizes the taxes and fees collected by the government from large-scale mining companies. The government does not collect royalty under MPSAs except when the operations are in mineral reservation areas for which a royalty of 5 per cent of gross value of production is collected. The FTAAs pay similar taxes and fees. An additional government share is collected only if the basic government share is inferior to 50 per cent of net mining revenue after the recovery period, when the contractor has fully recovered its pre-operating, exploration and development expenditures (DENR 2007).[5]

Table 1. Types of taxes and fees from large-scale mining

National government taxes and fees	
(a)	Contractor's income tax (30 per cent);
(b)	Customs duties and fees on imported capital equipment;
(c)	Value-added tax on imported goods and services (12 per cent of the value of good) ;
(d)	Withholding tax on interest payments on foreign loan (10 per cent/20 per cent if payable to non-resident foreign corporations);
(e)	Withholding tax on dividends to foreign stockholders (30 per cent);
(f)	Documentary stamps taxes (varies depending on the document being taxed) ;
(g)	Capital gains tax (varies depending on the asset being taxed);
(h)	Excise tax (2 per cent of the market value of gross output);
(i)	Royalty (5 per cent of the market value of gross output if the operation is within mineral reservation areas).*
Local government taxes and fees	
(j)	Local business tax (maximum 2 per cent of gross sales);
(k)	Real property tax (maximum of 2 per cent of the assessed value of the real property);
(l)	Community tax (maximum Philippine peso/PHP 10,000.00);
(a)	Occupation fees (PHP 75.00 per hectare outside mineral reservations/PHP100.00 per hectare inside mineral reservations);**
(b)	Registration and permit fees.

Notes: * Mineral Reservations are areas established by the President of the Philippines when the national interest so requires, such as when there is a need to preserve strategic raw materials for industries critical to national development or certain minerals for scientific, cultural or ecological value DENR (DENR 1996). ** The province receives 30 per cent of the occupation fees while the municipalities keep the remaining 70 per cent. The use of this fee has not been specified by law. Currently, it just adds to the general fund of the local government units. Source. Bureau of Internal Revenue 2004; DENR 1996; DENR 2005; Republic of the Philippines 1991b.

Based on the first Philippine EITI report, the total taxes, royalties and fees paid by large-scale metallic mining companies to the Philippine government amounted to Philippine peso (PHP) 6 billion (about USD 127 million).[6]

Mining contractors operating in ancestral domains are required to pay royalty directly to the indigenous communities owning the Certificate of Ancestral Domain Title (CADT). The communities are free to negotiate the rate with the mining company applying to operate in the area. The Mining Act guarantees a minimum amount of 1 per cent of the value of gross production, which should form a trust fund for the implementation of the indigenous communities' socioeconomic plans. According to the DENR, about PHP 330 million (USD 7

[5] Net mining revenue is computed as gross value of production minus allowed deductible expenses under DENR Administrative Order No. 2007-12 which include mining, milling, transport and handling expenses, smelting and refining costs other than smelting and refining costs paid to third parties, general and administrative expenses, environmental expenses, expenses for the development of host and neighbouring communities and for the development of geosciences and mining technology, royalty payments to claim owners or surface land owners, continuing mine operating development expenses within the contract area after the pre-operating period, interest expenses charged on loans or such other financing-related expenses.

[6] Exchange rate: Php 47.14= I USD

million) of royalties have been paid to the indigenous cultural communities out of the five major mining projects between 2007 and 2010 (Fian 2010).

Significant problems have been observed in relation to the implementation of the mining royalty policy. In one instance, the Mamanwa tribe in Surigao del Norte claimed to have no knowledge that they were entitled to mining royalties (Arguillas 2009a). Concerns have also been raised regarding the non-payment and sometimes accuracy and delay of payments of royalties to the indigenous peoples, which have resulted in conflict between leaders in indigenous communities.[7] Furthermore, indigenous peoples with no CADT do not get royalty shares from mining contractors (Anda 2014). Based on the first Philippine EITI report, the government fails to monitor the royalty payment and compliance of companies to their Memorandum of Agreement with the indigenous communities (Philippine EITI 2014).

The government also collects mine waste and tailings (MWT) fees, though exemptions are granted if the mine waste and mill tailings are used as filling materials, concreting products or are impounded for future use. The fee accrues to a MWT Reserve Fund and is to be used exclusively as compensation for damages to lives and personal safety; lands, agricultural crops and forest products, marine life and aquatic resources, cultural resources; infrastructure; and the revegetation and rehabilitation of silted farm lands and other areas devoted to agriculture and fishing damaged by mining pollution.

In addition, the Secretary of the DENR is authorized to charge reasonable filing fees and other charges according to the Mining Act of 1995. In August 2012, the tailings dam of Philex Mining Corporation's Padcal Gold and Copper Mine in Itogon, Benguet leaked 20 million metric tons of waste into Agno River and Balog Creek— an incident considered to be the largest mine waste disaster in Philippine history. The company initially objected to the fine imposed by the MGB amounting to PHP 1.034 billion (about USD 21 million), arguing that the accident was "force majeure" (Olchondra 2012), but eventually the company paid the whole amount (Pangilinan 2012).

Incentives

The contractors enjoy incentives as provided by the Omnibus Investments Code of 1987 and the Philippine Mining Act of 1995. These incentives are as follows:

- Income Tax Holiday (ITH) of four to eight years from commercial operation;
- simplification of customs procedure;
- employment of foreign nationals;
- tax credit on raw materials;
- exemption from taxes and duties on imported spare parts;
- incentives for pollution control devices;
- income tax incentive to carry forward losses;[8]
- accelerated depreciation on fixed assets; and
- investment guarantees such as investment repatriation, earnings remittance, freedom from expropriation and requisition of investment.

But basic FTAA contracts also provide for several incentives not found in any law. These include exemptions from income tax, customs duties, and fees on imported capital

[7] Catoto 2010; Arguillas 2009; Pantaleon 2009.

[8] A net operating loss without the benefit of income tax-accelerated depreciation incurred in any year during the first 10 years of the contractor's operation may be carried over as a deduction from taxable income for the next five years immediately following the year of such loss.

equipment, value-added tax on imported goods and services, withholding tax on interest payments on foreign loans, withholding tax on dividends to foreign stockholders, documentary stamps taxes and capital gains tax. Such exemptions are typically available for five years or less depending on the contractor's recovery period— but they can also be longer than five years depending on the approval of the Secretary of the DENR (Sunley et al. 2012). Significantly, in 2013, the Bureau of Internal Revenue (BIR) clarified that holders of FTAAs are required to pay the income tax and excise tax during and after their recovery period (BIR 2013).[9] Using the data from the first Philippine EITI report (2014) and financial statements of companies from the Securities and Exchange Commission, the government lost around PHP 2 billion (USD 42 million) in 2012 because of income tax holidays granted to large-scale metallic mining companies.

Indeed, rationalizing fiscal incentives and amending the fiscal policy governing mining industries are priorities of the Aquino Administration, who, based on Executive Order No. 79, will not enter into any new mining agreement until this is achieved (Remo 2013a and 2013b; Office of the President 2012). In fact, in the 2012 State of the Nation Speech before Congress, President Benigno S. Aquino III made the following pronouncement regarding mining:

> We likewise engaged stakeholders in a level-headed discussion in crafting our Executive Order on mining. The idea behind our consensus we reached: that we be able to utilize our natural resources to uplift the living conditions of the Filipinos not just of today, also of the following generations. We will not reap the rewards of this industry if the cost is the destruction of nature.
>
> But this Executive Order is only the first step. Think about it. In 2010, 145 billion pesos was the total value derived from mining, but only 13.4 billion or nine per cent went to the national treasury. These natural resources are yours; it shouldn't happen that all that's left to you is a tip after they're extracted. We are hoping that Congress will work with us and pass a law that will ensure that the environment is cared for, and that the public and private sectors will receive just benefits from this industry (President Benigno S. Aquino III 2012).

A 2004 comparative study of selected mining countries showed the Philippines to be in the second lowest quartile with a total effective tax rate of 45.3 per cent (Otto et al. 2006), while a more recent estimate shows government take to be at 42 per cent (Bauer 2012). This has enabled OceanaGold, an Australian mining company and FTAA holder for a gold mining project in Nueva Viscaya, to state that their project is "the lowest-cost gold mine on earth" (Ker 2013). Again, using 2012 EITI data and the financial statement of companies from the Securities and Exchange Commission, the PHP 6 billion total payment of large-scale metallic mining companies to government is only 18 per cent of the industry's total income before tax. This is the government share from the industry's profit in 2012.

Not surprisingly, an IMF study recommends the repealing of incentives provided by the Mining Act and the Omnibus Investment Code, since investment in mining should be determined by the quality of mineral deposit in the country and not by incentives (Sunley et al. 2012). The organization also recommends combining the 2 per cent excise tax and the 5 per cent royalty tax imposed on mining operations in mineral reservations into a single

[9] Oceana Gold Corporation, the first company to operate with an FTAA, filed a suspension order before the Court of Tax Appeals to question the issuance of the BIR to clarify the incentives they are entitled to under their FTAA (Valencia 2013). The case is still pending.

royalty that applies to all mining operations, both inside and outside mineral reservation areas (Sunley et al. 2012). There are currently three proposed laws in Congress, all designed to amend the fiscal policies governing large-scale metallic mining. These initiatives are consistent with the global trend towards increasing taxes on exploitation of resources.

So far, this paper has outlined the different mining agreements and the different taxes and fees collected by the government and the incentives provided to them. Some of these taxes and fees are earmarked for specific purposes. First, a Mineral Reservation Trust Fund (MRTF) is composed from 10 per cent of the royalty from mineral reservations and other revenues such as administrative, clearance, exploration and other related fees derived by the government. The purpose of the trust fund is to finance special projects and other administrative expenses related to the exploration, development and environmental management of minerals in government reservations.

Second, mining contractors are also required to spend 1.5 per cent of their direct mining and milling cost on Social Development and Management Programmes (SDMP) that promote the general welfare of the host and neighbouring communities and develop mining technology and geoscience. They can charge such SDMPs against the 2 per cent royalty share of the indigenous peoples' communities. Similarly, holders of exploration permits are required to formulate their Community Development Program (CDP), which should be at least 10 per cent of the budget for the approved two-year exploration work. Companies are responsible for implementing their own social development programmes (DENR 1996; DENR 2010).

Third, the Mining Act of 1995 requires mining contractors to allocate funds for environmental rehabilitation and management. In this regard, they are required to spend approximately 10 per cent of the total capital/project cost on environment-related capital expenditures.[10] Linked to this, contractors are also required to allocate 3 to 5 per cent of their direct mining and milling cost for environmental management and protection. This is to be embodied in their Annual Environmental Protection and Enhancement Program (AEPEP), which is reviewed by the Multipartite Mining Monitoring Team (MMT) and approved annually by the MGB. The AEPEP should include rehabilitation, regeneration, revegetation and reforestation of mineralized areas, slope stabilization of mined-out and tailings covered areas, aquaculture, watershed development, water conservation, and socioeconomic development. Moreover, companies are also required to "technically" and "biologically" rehabilitate the excavated and mined-out areas to promote environmental safety (DENR 1996).

Fourth, the law creates the Contingent Liability and Rehabilitation Fund (CLRF), which is an environmental guarantee fund to ensure compensation for damages, and progressive and sustainable rehabilitation for any adverse effect of a mining operation or activity. The rehabilitation fund—a trust fund in a government depository bank—is to be used for physical and social rehabilitation of areas and communities affected by mining activities and for research on social, technical and preventive aspects of rehabilitation. Failure to comply with the rehabilitation requirements can result in immediate suspension or closure of the mining activities of the contractor (DENR 1996).[11]

[10] Such expenditures may include environmental studies and design cost, waste area preparation, tailings/slime containment/disposal system, mine waste disposal system, waste water/acid mine drainage treatment plants, dust control equipment, air pollution control facilities, drainage system and other environment-related mitigating measures.

[11] The CLRF is composed of three sub-funds:
(a) Monitoring Trust Fund – 50 thousand pesos are collected annually from mining operators to support the work of the MMT.

These earmarked funds emphasize concerns for environmental rehabilitation and disaster prevention which, prior to the Mining Act of 1995, were not a priority for mining companies nor the government. Indeed, a number of mines were abandoned without being rehabilitated, and disasters and environmental destruction affected many of them. In turn, the funds reflect the intent of the government to promote mining as a possible engine for development while mitigating the negative impacts. However, according to the Philippine EITI (2014) report, these environmental funds are not monitored properly by the government.

Legal Framework for Small-Scale Mining (SSM)

Legal Provisions

This section provides an overview of the laws governing small-scale mining. Under Philippine laws, the small-scale mining sector involves individuals, groups, families or cooperatives engaging in mining activities, which rely heavily on manual labour, using simple implements and methods, and do not use explosives or heavy mining equipment. Such operations are limited to 20 hectares and licences to operate are issued for two years and can be renewed (Republic of the Philippines 1991a). There are about 300,000—500,000 small-scale miners operating in 31 of the 81 provinces of the country (Natividad 2012; Romulo 2013). Indirectly, small-scale mining provides livelihood for about 2 million people (Zubiri 2010).

There are two laws on the small-scale mining industry in the Philippines: Presidential Decree No. 1899, which was issued by President Ferdinand Marcos in 1984, and Republic Act No. 7076, which was enacted by Congress in 1991. However, key differences exist between the two laws. For one, R.A. 7076 improved the transparency and accountability of issuance of licences and monitoring of small-scale mining operations. It created the Provincial Mining Regulatory Board (PMRB) — a multistakeholder group chaired by the national government, responsible for the issuance of SSM licences, the formulation of rules and regulations related to small-scale mining, the settlement of conflicts within a people's small-scale mining area, and the identification of areas to be designated exclusively for small-scale mines (*minahang bayan*) (Catajan 2013).[12] Furthermore, RA No. 7076 requires small-scale miners to pay all taxes, royalties or government production share according to what is provided for by law. Under RA No. 7076, the government share from small-scale mining will be collected by the municipal and city treasurer where the mining claims are located (DENR 1992).[13]

RA 7076 also requires the creation of the People's Small-Scale Mining Protection Fund. This should comprise 1 to 5 per cent of the national government's share of the internal revenue tax or production share of the government which shall be used for (i) information dissemination and training of small-scale miners on safety, health and environmental protection; (ii) establishment of mine rescue and recovery teams including the procurement of rescue equipment necessary in cases of emergencies such as landslides, tunnel collapse or the like;

(b) Rehabilitation Cash Fund (RCF) – the law requires ten per cent of the budget to implement the AEPEP or 5 million pesos – whichever is lower - to form this cash fund.
(c) Mine Waste and Tailings Reserve Fund – this is a fund created from the fees for mine waste and mill tailings.

[12] Currently, there are *minahang bayan* in seven provinces in the country. Surigao, Zambales, Compostela Valley, South Cotabato, Quezon, Dinagat Island and Agusan del Norte. The national government plans to identify 15 more sites for minahang bayan off limit to large-scale miners (Rivera 2013). Areas designated as *minahang bayan* should be approved by the GBMGB.

[13] The law does not specify the national government share from small-scale mining. There is also no system to monitor the remittance of these payments to the Treasurer of the Philippines (PPEI 2013).

and (iii) addressing the needs of the small-scale miners brought about by accidents and/or fortuitous events. While this fund is very important because of frequent small mining accidents, it has not yet been created to date due to the challenges of establishing *minahang bayan* (Soriano and Makayan 2012). By contrast, PD No. 1899 does not provide such monitoring mechanisms, and exempts small-scale mining licensees from paying all taxes except income tax. [14]

In 2011, the Department of Justice (DOJ) issued Opinion No. 29, Series of 2011 clarifying that RA No. 7076 completely repealed PD 1899. This view was reaffirmed in Executive Order No. 79 of President Aquino, which clarified in 2012 that the governing law on small-scale mining is now RA No. 7076 and that small-scale mining can only be realized in *minahang bayan.* It further required the formation of PMRBs in provinces where they are not yet existing within three months of the issuance of the order. The EO also limited small-scale mining operations to gold, silver and chromite, while prohibiting mercury use. In principle, this should make all small-scale mining operations outside the minahang bayan illegal. Pending the designation of the minahang bayan, however, small-scale mining operations are allowed to continue, given the high number of poor families reliant on small-scale mining.

Local government fiscal policies

As earlier implied, provincial local governments are the main formulators of fiscal policies on SSM. In this regard, SSM fiscal frameworks and outcomes in South Cotabato and the Compostela Valley provinces are instructive on how such policies are set at the local level.

In South Cotabato, the provincial government imposes a mineral tax of one peso/kg (0.023USD/kg) of ore (AFRIM 2012). The mineral tax is collected by the provincial government and is shared and remitted monthly to the municipal and *barangay*[15] government, with the provincial and municipal governments each receiving 30 per cent, and the barangay government receiving 40 per cent. (AFRIM 2012). But in addition to the mineral tax, a variety of fees are also collected by the provincial government and the Environmental Management Bureau (EMB) of the DENR. Table 2 summarizes the schedule for these different taxes and fees for SSM in South Cotabato.

[14] The Implementing Rules and Regulation of PD No. 1899 identified the taxes as follows: Special Import Tax, Compensating Tax, Tariff Duties, Royalties, Sales Tax, Real Estate Tax, Occupation Fees/Rentals, among others.

[15] Barangay is the smallest unit of government.

Table 2. South Cotabato Schedule of Taxes and Fees for Small-Scale Mining

Permitting Agency	Type of Fee	Amount (in PHP)	Remarks
DENR – Environmental Management Bureau	1. Environmental Clearance Certificate (ECC)	4,000	For gold processing plant – Ball Mill and CIP Plant
	2. Violation Fee	50,000	Per violation of the ECC conditions
Provincial LGU	1. Small-Scale Mining Permit	6,600	Per contract, renewable every two years
	2. Delivery Receipt (DR)	1,000	per ton (T), with an allowable limit of 50,000T / yr.
	3. Ore Transport Permit (OTP) Application	6,500	For the first application, renewable every after 15 days
	4. OTP Renewal (every 15 days)	500	
Municipal LGU	1. Annual Business Tax (Mayor's Permit)	200	For less thaN PHP 500,000 annual income.
		400 – 500	For less than PHP 500,000 – 2 million annual income.
		2,500 – 3,000	For more than PHP 2 million annual income.
	2. Zoning Clearance	1,300	Annual
	3. Realty Certificate / Assessor's Fee	44	Annual
	4. Occupation Fee	50 – 100	Per mine worker per tunnel
	5. Sanitary Inspection Fee	100	Annual
	6. Police Clearance	22	Annual
	7. Garbage Fee	200	Annual
	8. Secretary's Fee	20	Annual
Barangay LGU	1. Barangay Clearance	1,000	Per tunnel operator, annual
	2. Transport Fee	5	Per day For *habal-habal*[a] ore transporters.

Note: a A local form of transport using modified motorcycle. Source. AFRIM 2012 citing regulating policies of EMB RXII and Provincial LGU of South Cotabato, T'boli LGU and Barangay Kematu LGU.

On a similar note, the province of Compostela Valley's total collections from SSM in 2012 include taxes, environmental user's fee and donation which amounted to PHP 15,141,900.01 (360,000 USD). This enabled the provincial government to spend a more on provincial administration and development. Table 3 summarizes the revenue collection of the province from 2010 to 2012.

Table 3. Province of Compostela Valley Taxes and Fees from Extractive Industries (2010–2012)

Taxes and Fees	2010	2011	2012
Sand Gravel tax	2,431,745.26	2,269,868.26	2,740,493.70
Small-Scale Mining	1,008,130.00	356,248.90	1,511,265.00
Environmental User's Fee	1,070,472.74	1,641,860.83	4,601,425.43
Donation from small-scale mining	15,582,346.00	13,476,122.50	9,029,209.58
Occupation Fee		236,715.00	129,570.00
Excise Tax	317,994.65	4,039,431.91	2,620,839.00
TOTAL	**20,410,688.65**	**22,020,247.40**	**19,632,802.01**

Source: Data obtained from the Provincial Treasury of Compostela Valley as cited in Verbrugge 2015.

The experiences of South Cotabato and Compostela Valley show the additional income that other local governments would be able to generate to contribute to economic and social development if SSM activities were formalized and taxed. Taxes collected from SSM in the Compostela Valley province has increased the income of the local government, particularly those of the host barangays, providing it with additional funds to implement programmes and projects. Small-scale mining serves as primary source of income for many families who have

turned away from agriculture because of the bigger capitalization it requires as opposed to working as labourers in SSM operations (AFRIM 2012). Nonetheless, the contribution of SSM to government income remains nil in provinces where it is unregulated and untaxed.

Economic, Environmental and Social Impacts of Mining

Development framework on Philippine mineral resources

This section provides an overview of the development framework of the Philippine mining industry. It also discusses the macroeconomic contribution of the industry, and its environmental and social impacts on host communities. The vast deposit of minerals in the Philippines has always been considered a potential engine for development and poverty alleviation, as made explicit for instance in the Executive Order No. 270 of former President Gloria Macapagal-Arroyo (2001-2010).[16] The 2004 Mineral Action Plan, which elaborated on the presidential order, focused on increasing investment, confidence and acceptance of the industry. The policy represented a statement of full support for the promotion of responsible mineral resource exploration, development and utilization as an engine of growth. Yet it was also silent on the specific policies that will translate the gains from extracting mineral resources into social development and poverty alleviation programmes that will benefit the current and future generations.

The Aquino government (2010–2016) issued Executive Order No. 79 to outline its own mining policy. Similar to Arroyo's policy, it recognized the potential of the country's mineral resources and emphasized environmental protection, responsible mining in the utilization of mineral resources, development of downstream metallic industry, fiscal policy reforms and reforms in governance. The main difference, however, concerns the emphasis on identifying the limits of mining areas, fiscal policy reforms to ensure fair share in the extraction of minerals and the implementation of the Extractive Industries Transparency Initiative (EITI). Indeed, in his 2012 State of the Nation speech, President Aquino emphasized that the utilization of natural resources should benefit the current and future generations and that the benefits of extracting the resources should not be reaped if the cost is the destruction of nature. This is the present government's main argument for proposing to increase the taxes on mining.

Economic contribution of mining

The Philippine mining industry has declined since the 1970s and 1980s when the country was among the leading producers of gold and copper worldwide. Until the early 1990s, mining was considered a major pillar of the Philippine economy, accounting for about 30 per cent of the country's gross domestic product (GDP) (Lyday 2002). The industry's decline was attributed to low international metal prices, high operating and production costs, political instability, labour problems, a global slump in exploration expenditures, lack of investment in infrastructure, and natural disasters such as earthquakes, floods, landslides, tsunamis, typhoons, and volcanic eruptions (Esplanada 2012; Lyday 2002).

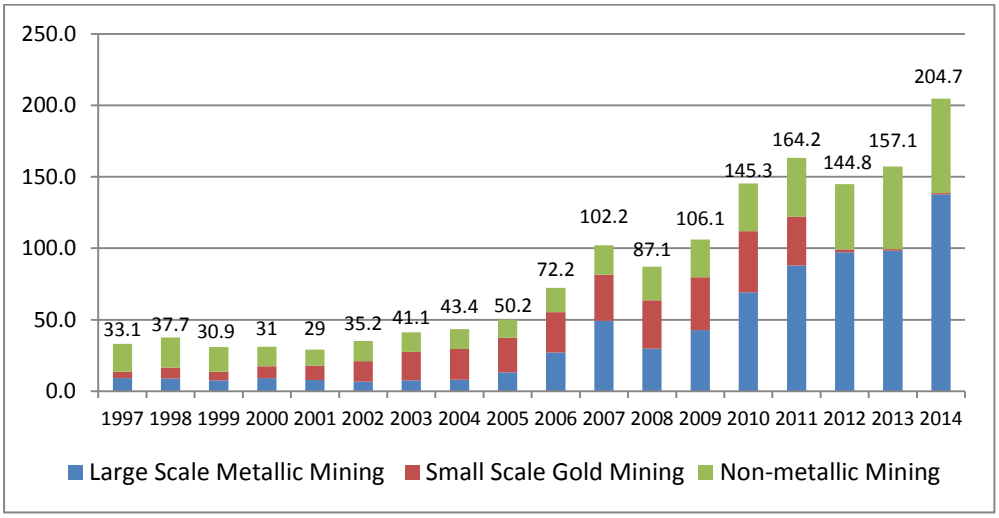
[16] The order stated the need to address the environmental, economic, health and social impact of mining and enhance stakeholders' participation throughout the life cycles of the mining operations, which is necessary for the industry to contribute to sustainable development. The guiding principles of the order focused on facilitating investment in the mineral industry, the development of downstream industry, the promotion of small-scale mining as part of the formal sector of the mineral industry, the adoption of efficient technologies in mining, the protection of the environment and ecological integrity, the rehabilitation of abandoned mines, and equitable sharing of proceeds from mining between units of government as well affected communities.

While the large-scale mining industry was expecting a big boost after the passage of the Mining Act of 1995 which allowed 100 per cent foreign ownership of large-scale mining operations, other factors contributed to the less than stellar performance of the industry. Firstly, the constitutionality of the Mining Act was questioned before the Supreme Court and was not resolved until 2005. In addition, the 1996 Marcopper tailing spill,[17] the implementation of the 1997 Indigenous Peoples Rights Act, the decentralization of government functions which resulted in policy conflicts between local and national governments, and the emergence of advocacy groups against mining all contributed to the decline in mining investment in the country (Halcon 2012).

Gross mineral production

The annual gross production value of mining has generally increased since 2005 after the Supreme Court upheld the constitutionality of the 1995 Mining Act (figure 1). The increase in gross value of production from 2006 to 2011 is attributed to improvements in the country's mining output and the high prices of gold, silver, copper and nickel in the world market (Soriano and Makayan 2012).[18] Meanwhile, while SSM production has overall increased over the years, it is also recorded as having declined since 2011, reflecting the increase in illegal trading of gold from SSM, rather than a decline in output. Table 4 likewise summarizes the country's gross national income and GDP from 1998 to 2010, and shows that the mining industry's contribution to the country's GDP has remained only about 1 per cent, the second lowest rate after forestry (Virola 2012).

Figure 1. Gross production value in mining, 1997–2014, in PHP billion



Source. MGB 2015b.

[17] Among the worst mining disasters in the Philippines, a drainage tunnel of the open pit burst and released mine tailings into the river and flooded farmlands and villages in Marinduque (Landingin and Aguilar 2012).

[18] Between 2006 and 2010, production volume of nickel more than doubled, copper more than tripled and silver almost doubled. Quantity of gold produced increased by 13 per cent (Soriano and Makayan 2012).

Table 4. GDP by industrial origin, 1998 to 2010

(per cent share)

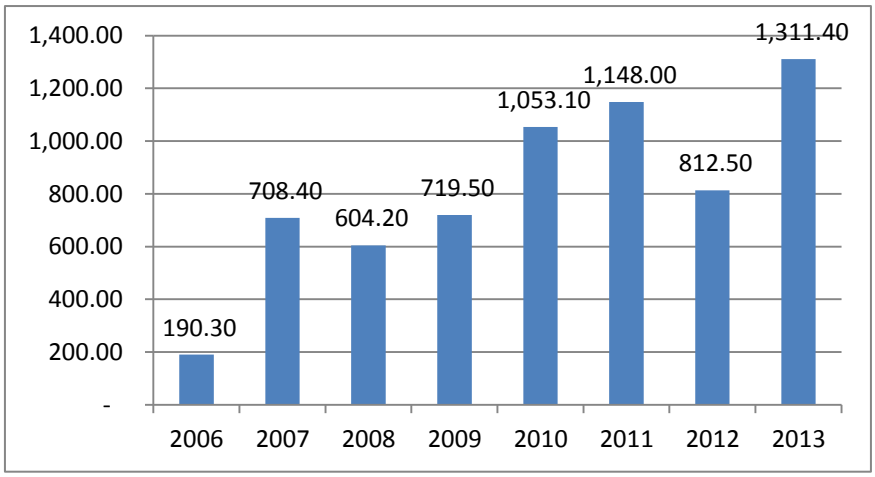
INDUSTRY	AVERAGE	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1. AGRI, HUNTING, FISHING & FORESTRY	13.3	13.3	14.1	14.0	14.0	14.0	14.0	13.6	13.3	13.1	12.9	12.8	12.5	11.6
a. Agriculture and fishing	13.2	13.2	14.0	13.8	14.0	13.9	13.9	13.5	13.2	13.0	12.8	12.7	12.5	11.6
b. Forestry	0.1	0.001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
2. INDUSTRY SECTOR	33.2	35.3	33.8	34.5	33.8	33.6	33.3	32.9	32.7	32.5	32.2	32.4	31.5	32.6
a. Mining and quarrying	0.9	0.7	0.6	0.6	0.6	0.9	1.0	0.9	1.0	0.0	1.0	1.0	1.1	1.2
b. Manufacturing	23.5	24.5	24.2	24.5	24.4	24.3	24.0	23.7	23.7	23.5	22.8	22.8	21.5	22.2
c. Construction	5.1	6.5	5.4	5.7	5.1	4.8	4.7	4.6	4.4	4.6	5.0	5.1	5.4	5.7
d. Electricity, gas and water supply	3.6	3.6	3.6	3.7	3.7	3.6	3.7	3.7	3.6	3.5	3.5	3.6	3.5	3.6
3. SERVICE SECTOR	53.5	51.4	52.1	51.6	52.1	52.4	52.7	53.5	54.0	54.4	54.9	54.8	56.0	55.8
a. Transport, storage and communications	7.3	5.8	5.9	6.1	6.6	7.0	7.5	7.9	8.1	8.0	8.1	8.1	8.0	7.5
b. Trade and repair of motor vehicles, motorcycles, personal and household goods	16.2	14.6	15.4	15.8	16.2	16.2	16.2	16.3	16.4	16.6	16.9	16.5	16.5	16.6
c. Financial intermediation	5.7	5.3	5.4	5.2	5.3	5.4	5.4	5.4	5.7	6.1	6.3	6.2	6.4	6.6
d. Real estate, renting and business activity	9.6	9.9	9.8	9.3	9.0	8.9	8.9	9.2	9.4	9.5	9.6	10.0	10.3	10.3
e. Public administration and defence; compulsory social security	4.9	5.6	5.4	5.2	5.1	5.0	4.9	4.9	4.7	4.7	4.4	4.3	4.5	4.5
f. Other services	9.9	10.2	10.3	10.0	10.0	10.0	9.7	9.7	9.6	9.5	9.5	9.7	10.2	10.2
GDP		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source. NSCB as cited in Virola 2012.

Investment and Exports

With regard to investment, levels have increased since the issuance of EO 270 in 2004, which revitalized the industry (see figure 2).[19] The government's moratorium on entering into new contracts until a new law on mining taxation is adopted has reversed this trend and led investment to decline in 2012. However, investment picked up again in 2013.

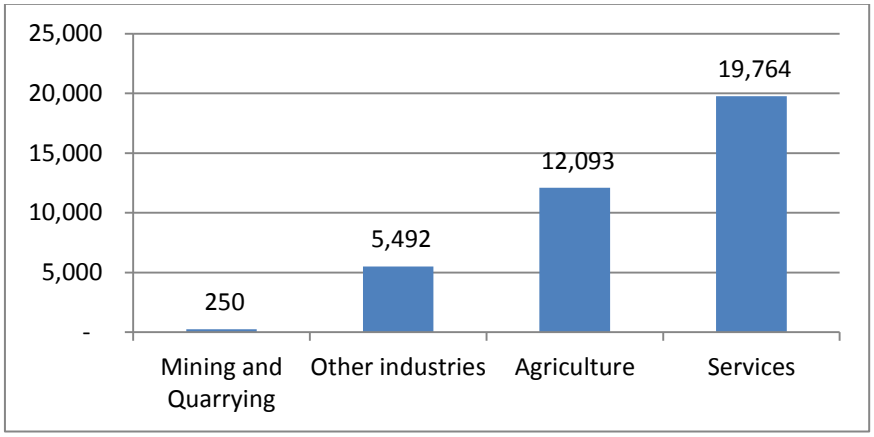
Figure 2. Total mining investment, in billion USD



Source: MGB 2015.

Along with the low contribution of mining to the national economy, mineral exports remained steadily at around 2 per cent of total exports between 1997 and 2005, but have risen to 6 per cent by 2011. This is equivalent to USD 2.8 billion (MGB 2013). The increase after 2003 is explained by the fact that until then, only five to seven metallic mines were operating (Soriano and Makayan 2012).[20]

Figure 3. Average number of employed persons by major industry group, Philippines, 2012 (in thousands)



Source. National Statistics Office 2013.

[19] Data on mining investment is available from the government only starting from 2006.
[20] Compared to 43 by the end of 2014.

Employment, livelihood and industry

In terms of employment creation, large-scale mining operations are generally not labour intensive. For examples, Oyu Tolgoi in Mongolia—considered as the world's third largest copper mine with an approximate value of USD 100 billion and a 40-year life span—generated 11,400 jobs during the construction phase, but only 3,500 jobs will be permanent during the actual operation of the mine (Bauer 2012). Not surprisingly, mining's contribution to total employment in the Philippines is only around 0.7 per cent. On average, the mining and quarrying industry employs 250,000 individuals, which is relatively low compared to agriculture, the service sector or other industries as shown in figure 3.

As has been shown, the mining industry does not contribute much to the national economy directly, but neither has it contributed indirectly via the creation of downstream industries. This, however, is how other countries maximize the benefits flowing from mining. For example, Indonesia requires mining companies to process and refine mineral ore within the country and imposes an export duty to discourage its exports. In the Philippines, most of the mineral ore is exported. There is only one copper smelter in the country which imports all of its copper concentrates from Papua New Guinea, Peru, Indonesia, Australia, Canada, and Chile (Icamina 2012). All the copper extracted from the mine sites are exported. In addition to the copper smelter, there are two gold and nickel processing plants in the country as of 2014.

In the small-scale mining sector, 300,000–500,000 operations in the country provide livelihood to about 2 million Filipinos and generate at least 20,000 formal and informal small enterprises.[21] In a case study about SSM in the Philippines conducted in 2001, it was estimated that about 75 per cent of miners were involved in subsistence mining, 15 per cent were small individual or family businesses, while 10 per cent were established commercial mining firms implementing mechanized and sophisticated operations similar to large mining companies (Bugnosen 2001). In more recent years, the number of firms with SSM licences implementing mechanized and sophisticated operations increased with the aggressive entry of Chinese firms, trying to avoid capitalization, taxes, fees and other requirements for large-scale operations (Romulo 2013). The weak regulatory regime of the SSM industry has attracted Chinese firms, which operate in the country by working with a Filipino dummy and acquiring SSM permits for a minimal fee (Romulo 2013).

From the preceding section, it is clear that the contribution of the mining industry to the economy is less than stellar. The large-scale sector's total contribution to the GDP is around 1 per cent. Its employment contribution is at 0.7 per cent. The lack of downstream industries does not help either, while the weak regulation of the sector has reinforced the criticism that the benefits the country gets from the mining sector do not outweigh its social and environmental costs. The next sections look at the social, environmental and economic impacts of current mining operations particularly to children.

Environment, health, human rights and child labour[22]

Mining operations are known to cause environmental degradation and loss of human life. Among the worst mining disasters in the Philippines was the 1996 Marcopper mining incident in Marinduque (Landingin and Aguilar 2012). Small-scale mining operations are also associated with deforestation, soil erosion, landslide, siltation of rivers, destruction of

[21] Bugnosen 2001; Natividad 2012; Romulo 2013; Zubiri 2010.
[22] For more extensive discussions on the impact of mining on the environment, health, human rights and labour, see annex F.

crops and properties, and emission of toxic substance like cyanide and mercury.[23] In a similar vein, mining operations in the Philippines have long been documented to have had negative impacts on the health of communities surrounding the mines. Indeed, the dust and contamination of waterways resulting from mining operations has resulted in higher incidence of respiratory and skin diseases in communities near mining sites (Philippine NGO Coalition on the UN CRC 2010:43).

The environmental problems with mining are outcomes of the weak regulatory capacity of the government. This is manifested by the failure to minimize the damage of mining operations in the Philippines. Overall, the current mining operations in the Philippines fail to comply with the country's current mining law and international standards, which exposes workers to greater mine hazards.[24] Indeed, due to concerns over the negative impact of mining to their communities, local governments started enacting mining bans in their localities. Among the local governments with policies against mining are South Cotabato, Occidental Mindoro, Davao City, Puerto Princesa City, Romblon, Zamboanga del Norte and Marinduque.[25] Yet aside from lack of resources to regulate mining properly, corruption is also entrenched in the government, so that its credibility to strictly regulate mining is seriously doubted (Rapu-Rapu Fact Finding Commission 2006).

Mining operations have also been known to be a cause of human rights abuses. As of 2011, about 30 environmental activists had been killed or been victims of enforced disappearance, among them anti-mining activists and leaders of indigenous communities (Minority Rights Group International 2012; Whitmore 2011). Mining is also associated with displacement and increased militarization in communities. To provide just one example, in 2011, the independent investigation of the Commission on Human Rights concluded that Oceana Gold Philippines Inc. violated the rights of Didipio residents in Nueva Viscaya (See annex F for details) (Commission on Human Rights 2011). Demolitions of homes were reported, along with the beating and violent dispersal of resisting residents. In a 2013 interview with the residents of Didipio in Nueva Viscaya, Ms. Carmen Ananayo, Vice-Chairperson of the Didipio Earthsavers Multipurpose Association, said that Oceana Gold Philippines Inc. closed some roads during the construction of the tailings dam. This disrupted the children's attendance in school as the children used this road to reach their school in Didipio. As a result, the children would have had to walk for an hour to reach their homes from school. Some families were forced to relocate in Didipio to make sure their children could still go to school, and some children were also compelled to stop attending classes because of their financial inability to relocate (Romero 2013).

Children are also seen working in SSM in the Philippines. In 2001 for instance, about 18,000 children were working in gold mines—a number which many have argued to be an underestimation (Human Rights Education Associates 2009; Price 2012). This is especially dangerous given that small-scale mine workers lack access to occupational health and safety programmes and have limited access to social protection schemes like health insurance.[26] Case studies on small-scale mining showed that children working in small-scale mines were exposed to risks of (i) extremely dangerous underground work, (ii) poor working conditions, (iii) exposure to toxic substance and dust, (iv) lack of protective equipment, and (v) very limited access to welfare health and safety facilities.[27] Such concerns have been borne out in

[23] Bugnosen 2000; The Alternate Forum for Research in Mindanao 2012; Zubiri 2010.
[24] Doyle, Wicks and Nally 2007; IOHSD 2006; Rapu-Rapu Fact Finding Commission 2006.
[25] Adraneda 2005; Cinco 2913; Kwok 2009; Ochondra 2011; PhilStar.com 2007; Regalado 2013; Sarmiento 2013.
[26] Artajo 2012; AFRIM 2012; Zubiri 2010.
[27] AFRIM 2012; Estrella-Gust 1999; OSHC 1998.

a variety of research efforts and case studies. Health and sanitation conditions of miners that live in the mine site are deplorable since these workers lived in makeshift bunkhouses and tents with no latrines (Bugnosen 2000; AFRIM 2012). Small-scale mining workers do not use personal protective equipment while working in mine sites, but instead their bare hands when processing ores and packing tailings which expose them to mercury and cyanide and they inhale smoke from burning chemicals (AFRIM 2012). Mine workers do not have health insurance and other benefits. Among the common health problems identified by mine workers are respiratory diseases and back pains (AFRIM 2012). These problems further illustrates how the state failed to translate mining benefits into services and programmes that could benefit the communities hosting mining—most especially, the children.

Government Income and Expenditure

National government income and expenditure

With the increase in the number of mines operating in the country, total mining-related taxes and fees collected by the government also increased. Table 5 represents that total collection of the government from large-scale metallic, non-metallic and small-scale mining sectors. Out of the PHP 20 billion collection in 2012, around PHP 6 billion came from the large-scale metallic sector based on the Philippine EITI report. Total collection increased by 65 per cent from PHP 13 billion in 2010 to PHP 22 billion in 2011 and this can be attributed to an increase in excise tax collection. The BIR imposed an excise tax of 2 per cent and a withholding tax of 5 per cent on small-scale miners. However, in the succeeding years, the reported gold production of SSM significantly declined because of this tax imposition. Most gold production from SSM now ends up in the black market.

The total tax and fees collected in 2014 is 16 per cent of the total gross production value of mining, equivalent to PHP 204.7 billion.

Table 5. Total taxes, fees and royalties from mining, 1997–2014 (in PHP million)

Year	Fees, charges and royalties collected by DENR-MGB	Excise tax collected by the BIR	Taxes collected by national government agencies	Taxes and fees collected by local government units	TOTAL
1997	—	114.80	921.50	70.70	1,107
1998	34.90	123.90	798.60	116.70	1,074
1999	37.50	241.10	1,016.90	180.90	1,476
2000	51.20	243.30	1,279.10	152.10	1,726
2001	66.30	129.80	647.60	138.40	982
2002	58.50	303.60	823.80	204.80	1,391
2003	79.80	155.80	1,039.20	226.90	1,502
2004	120.10	232.50	2,769.10	358.50	3,480
2005	210.20	251.40	4,733.60	453.50	5,649
2006	192.10	489.60	5,313.20	395.00	6,390
2007	774.00	942.10	8,371.70	359.80	10,448
2008	557.40	660.30	5,949.50	522.20	7,689
2009	396.20	718.80	10,272.50	992.80	12,380
2010	800.60	1,305.90	10,187.90	1,070.80	13,365
2011	1,180.80	6,985.80	12,736.20	1,176.90	22,080
2012	1,646.80	2,206.10	14,714.10	1,731.7	20,299
2013	1,517.10	2,493.50	18,483.00	1,527.4	24,021
2014	3,139.80	3,203.00	23,580.40	2,118.6	32,042

Source. MGB 2015b.

The 2014 total collection from the mining sector is about 2 per cent of the total revenue of the government, which was PHP 1.9 trillion. Except for the fees earmarked for environmental rehabilitation and disaster prevention summarized in section 2.4, these proceeds from the extraction of minerals are not earmarked for specific purposes. The taxes and royalties collected from mining companies go directly to a general fund in the national treasury and are then allocated through the annual budgeting process of the national government and the local governments. Congress then prepares a General Appropriations Act that allocates the budget for the various government departments and agencies. In this process, social development programmes, including those intended to benefit children, compete with other government priorities for their allocation. Earmarking the proceeds from the extraction of natural resources to social development guarantees long-term impact from the proceeds from extractive industries.

Resources for programmes and services for children are mostly lodged in the budget allocation of the agencies in the social services sector,[28] all of which have social programmes and projects that may contribute to children's welfare (CWC 2010:48). In 2012, the government allocated PHP 567.9 billion or 31 per cent of the total budget to social services sector. About PHP 308 billion goes to education. A substantial portion of the budget of the Department of Social Welfare and Development of PHP 39.4 billion goes to support the

[28] These include: the Department of Education (DepEd); Department of Health (DoH) and all its attached agencies; the Department of Social Welfare and Development (DSWD) and all its attached agencies; and the Department of Labour and Employment (DOLE) and all its attached agencies, including the Technical Education and Skills Development Authority (TESDA); the Housing and Urban Development Coordinating Council (HUDCC) and all the agencies under its umbrella; the Commission on Higher Education (CHED) which includes the budgets of the State Universities and Colleges (SUCs); and the Commission on Human Rights (CHR). To some extent, the Department of Agrarian Reform (DAR), the National Commission on Indigenous People (NCIP), the Department of Justice (DoJ) and the Philippine National Police (PNP).

Pantawid Pamilyang Pilipino Program (4Ps). This is the conditional cash transfer programme of the government that has a direct effect to children and their mothers. The programme provides financial assistance to families on the condition that they send their children to school, immunize them, and for the mothers to avail of maternal health care services. According to government report, about three million families benefited from 4Ps in 2012. The government also allocated PHP 0.9 billion for immunization to immunize 1.172 million children up to 15 months from hepatitis B, tetanus, rotavirus, measles and other immunizable diseases. The Department of Budget and Management's website provides a summary of the social expenditure program of the government in its Budget ng Bayan website.[29]

Local government income and expenditure

The 1987 Constitution strengthened the autonomy of local governments by devolving government powers, a reform aimed at ensuring that these can deliver basic services effectively. The Local Government Code (LGC) of 1991 guaranteed sources of income for local governments, such as (i) locally generated revenues through local taxes, fees, and enterprise (for example port, public market, etc.); (ii) technical assistance and grants/transfers in cash or in-kind from foreign and domestic sources[30]; (iii) special programmes and projects externally funded but which require a certain percentage of cost sharing or counterpart funding from the LGU under agreed conditions spelled out in legal instruments such as a Memorandum of Agreement (MOA); (iv) Internal Revenue Allotment (IRA) or transfers from national government as a share of the LGUs internal revenue collections from income taxes, VAT, excise taxes, taxes on capital gains, and other taxes specified in Section 362 of the National Internal Revenue Code (NIRC); and (v) share from extraction of natural resources in the area. On the other hand, the experience of LGUs with CWC on the Early Childhood Development (ECD) programme and of LGUs assisted by United Nations Children's Fund (UNICEF) in the fifth and sixth Joint Country Programmes for Children (CPC 5 and 6) are examples of cost-sharing arrangements. Given that the inputs from the external sources are much more than the cost shared by the recipient LGU, it is imperative that issues of sustainability be considered during the conceptualization of the programme or project (CWC 2010).

At the local government level itself, the sharing scheme of revenues is based on Sections 291 and 292 of the LGC. LGUs shall have a 40 per cent share of the gross collection[31] of the national government from the preceding fiscal year from the extraction of national wealth[32] (Local Government Code, 1991b). The sharing between LGUs are as follows:

(1) Province[33]: 20 per cent;

[29] See http://budgetngbayan.com/poverty-reduction-and-empowerment-of-the-poor-and-vulnerable/, accessed 6 January 2016.

[30] These transfers come mainly from congressional allocations to a wide range of projects, services and supplies from Official Development Assistance (ODA) funded projects, augmentation for devolved functions such as, seeds for farming, hospitals and school buildings, national government agency funded projects such as school buildings and other sources like Philippine Health Insurance, Philippine Gaming Corporation (PAGCOR) and the Philippine Charity Sweepstakes Office (PCSO).

[31] Gross collection includes: (i) mining taxes, royalties, forestry and fishery charges and other such taxes, fees or charges, including related surcharges, interests, or fines and from the government's share in any co-production, joint venture or production sharing agreement in the utilization and development of the national wealth within their territorial jurisdiction; C (ii) administrative charges enumerated herein accruing to the national government whether collected by government agencies or, in certain cases, by LGUs; and (iii) proceeds from the development and utilization of national wealth

[32] Article 386 (b) of the Implementing Rules and Regulations of LGC. The term national wealth shall mean all natural resources situated within the Philippine territorial jurisdiction including lands of public domain, waters, minerals, coal, petroleum, mineral oils, potential energy forces, gas and oil deposits, forest products, wildlife, flora and fauna, fishery and aquatic resources, and all quarry products

[33] The Philippines has 80 provinces. Dinagat Island became a province in 2007.

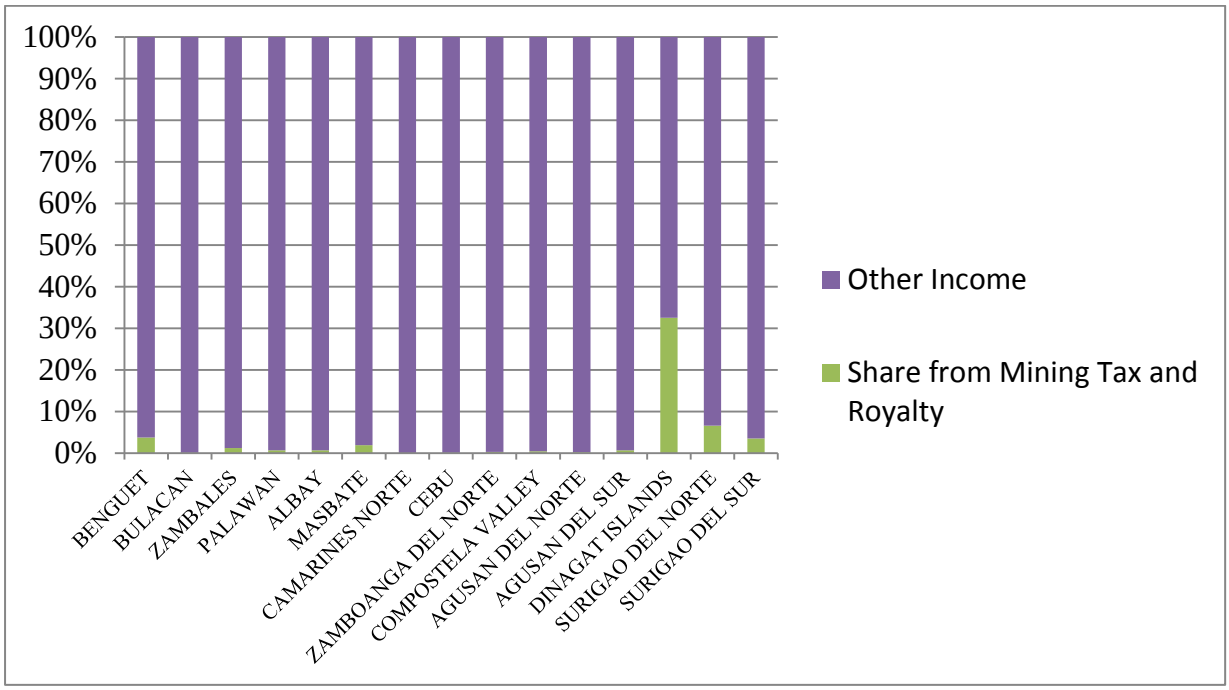
(2) Component City/Municipality: 45 per cent; and
(3) Barangay[34]: 35 per cent.

If the natural resources are in a highly urbanized or independent component city,[35] the city will get 60 to 65 per cent share and the barangay 35 per cent. If the natural resources are located in two or more provinces, or in two or more component cities or municipalities, or in two or more barangays, the respective share of each LGU will be computed on the basis of population (70 per cent) and land area (30 per cent).

The role of national-local revenue transfers

Figure 4 summarizes the income of mining provinces in 2012. The data shows that the taxes and royalties from mining do not significantly contribute to the income of provinces. Taxes and royalties of mining provinces are less than 10 per cent of their total budget except for Dinagat Islands.

Figure 4. Share from national wealth as percentage of the operating income of select mining provinces, 2012

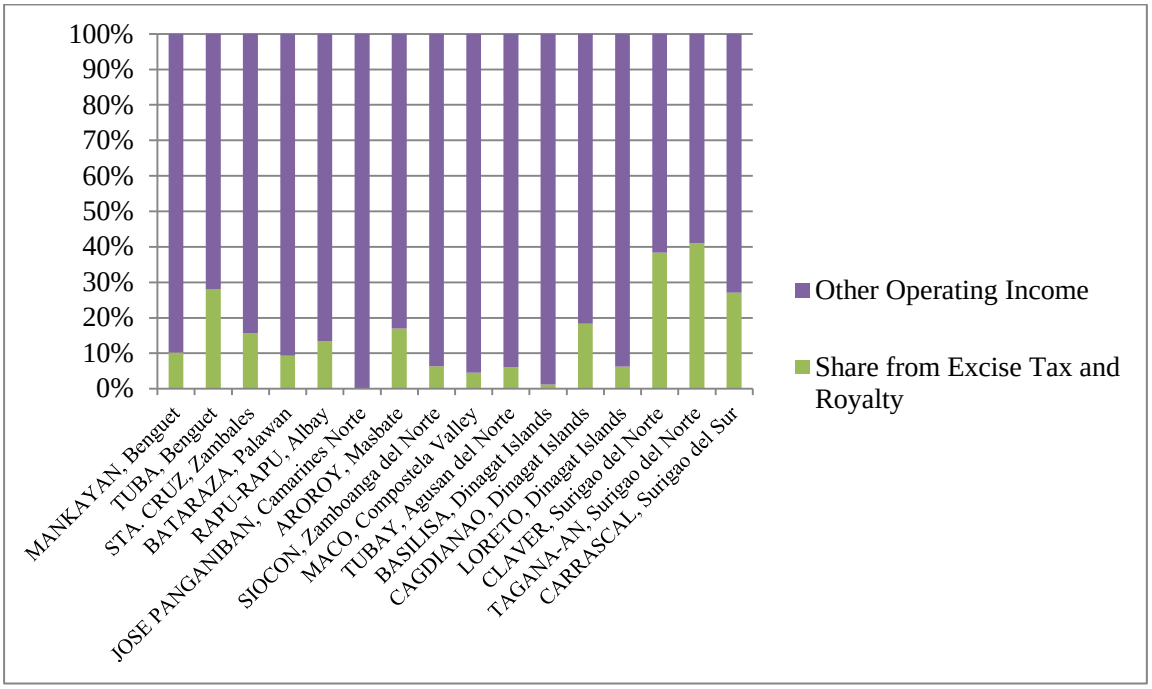


Source. BLGF n.d.; Philippine EITI 2014 Report.

The contribution of taxes and royalties to the budget of mining municipalities is higher compared to the provinces. Figure 5 summarizes the taxes and royalties collected from large-scale metallic mines as a percentage of the income of municipalities in 2012. While higher compared to provinces, the contribution of mining to income of municipalities is less than 30 per cent of the total income of the municipalities with the exception of Claver and Tagana-an in Surigao del Norte.

[34] Barangay is the lowest administrative and political unit in the Philippines.
[35] An independent component city is administratively and legally independent of the province. It collects its own revenue and does not share from the collection of the province.

Figure 5. Share from national wealth as percentage of the operating income of select mining municipalities, 2012



Source: BLGF n.d. (b); Philippine EITI 2014 report.

Another study estimated the taxes and fees paid by the mining industry to contribute about nine per cent of the locally sourced income of LGUs (Sunley et al. 2012).

The IRA from the national government is still the biggest source of income for provinces, at 76 per cent of their total annual operating income (BLGF n.d. (a)). Indeed, for mining provinces, the provincial share from national tax collection[36] ranges only from 0 per cent to 4 per cent, while IRA constitutes 62 per cent to 94 per cent (see annex B); meanwhile, for municipalities hosting mining operations, the share from national tax collection ranges from 0 per cent to 43 per cent of their annual operating income (see annex C) (BLGF n.d. (a)). [37] Large-scale mining operations might still significantly contribute to income of local governments through local business taxes, real property taxes and occupation fees—however, data for this is not disaggregated, making it impossible to compute how much mining operations actually contribute through locally generated income.

LGU's share in mineral rents

With regard to their share in mineral revenues, table 6 summarizes the years during which the provinces received shares from national tax on mineral extraction according to the income and expenditure data of the BLGF (n.d. (a)). The instances when a local government did not receive a share from national wealth may be explained by freezes in mining operations or delays in the release of the LGUs share. In fact, in 2012 studies of natural resource revenue collection and utilization in the Philippines, local government officials raised some concerns regarding the LGUs' share from national wealth. While the LGC specified the formula and

[36] Share from national tax collection includes the LGU share from taxes collected from economic zones in the area, expanded VAT, national wealth (natural resources), the PAGCOR and Philippine Charity Sweepstakes Office, and from tobacco excise tax (BLGF 2015).

[37] The municipalities of Narra, Sofronio Espanola, Bataraza in Palawan, and Jose Panganiban in Camarines Norte do not have income and expenditure data in the 2010 SEI report of the BLGF.

mandated the release of the share of local governments from mining activities, local governments experienced disbursement delays and lack of accuracy in computing the amount (Duhaylungsod 2012; Soriano and Makayan 2012). This delay and unpredictability of local government shares make it difficult for LGUs to plan and invest in infrastructure or development projects that require bigger capitalization (Duhaylungsod 2012).

Table 6. List of provinces hosting large-scale mining operations receiving a share of national wealth

	Year					
Province	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Agusan Del Norte					x	x
Agusan Del Sur				x	x	x
Albay	x	x	x	x	x	x
Benguet	x	x	x	x	x	x
Camarines Norte	x		x		x	x
Compostela Valley	x		x		x	x
Dinagat Islands				x	x	x
Eastern Samar					x	x
Leyte					x	x
Masbate			x		x	x
Palawan				x	x	x
Surigao Del Norte	x	x	x	x	x	x
Surigao Del Sur	x	x	x	x	x	x
Zamb. Del Norte	x		x	x	x	x
Zambales	x	x	x	x	x	x

Note. Years marked with x are the years when the provincial local government received a share from national wealth. Source. BLGF n.d. (a).

Income classification of provinces and municipalities

Local governments, provinces and municipalities are also classified according to their income, as shown in table 7 (FOD 2008a).[38] Most of the mining provinces are first and second class provinces except for Agusan del Norte. Of the 26 municipalities hosting mining operations, only three municipalities are fourth and fifth class municipalities. Tubod in Surigao del Norte is a fifth class municipality and Carrascal, Surigao del Sur and Tubay, Agusan del Norte which are fourth class municipalities. This suggests that most of the provinces should be capable of funding and implementing development projects and address the priority needs of their area.

[38] According to Department Order No.23-08, the income classification of LGUs serves as (i) the basis for the determining the financial capability of LGUs to provide in full or in part the funding requirements of developmental projects and other priority needs in their locality; and (ii) to determine the maximum amount expendable for salaries and wages, as well as the salary scales and rates of allowances, per diems and other emoluments that local government officials and personnel may be entitled to; the number of local council members and the implementation of personnel policies on promotions, transfers, details or secondments, and related matters at the local government level (DOF 2008b).

Table 7. Income classification of provinces and municipalities

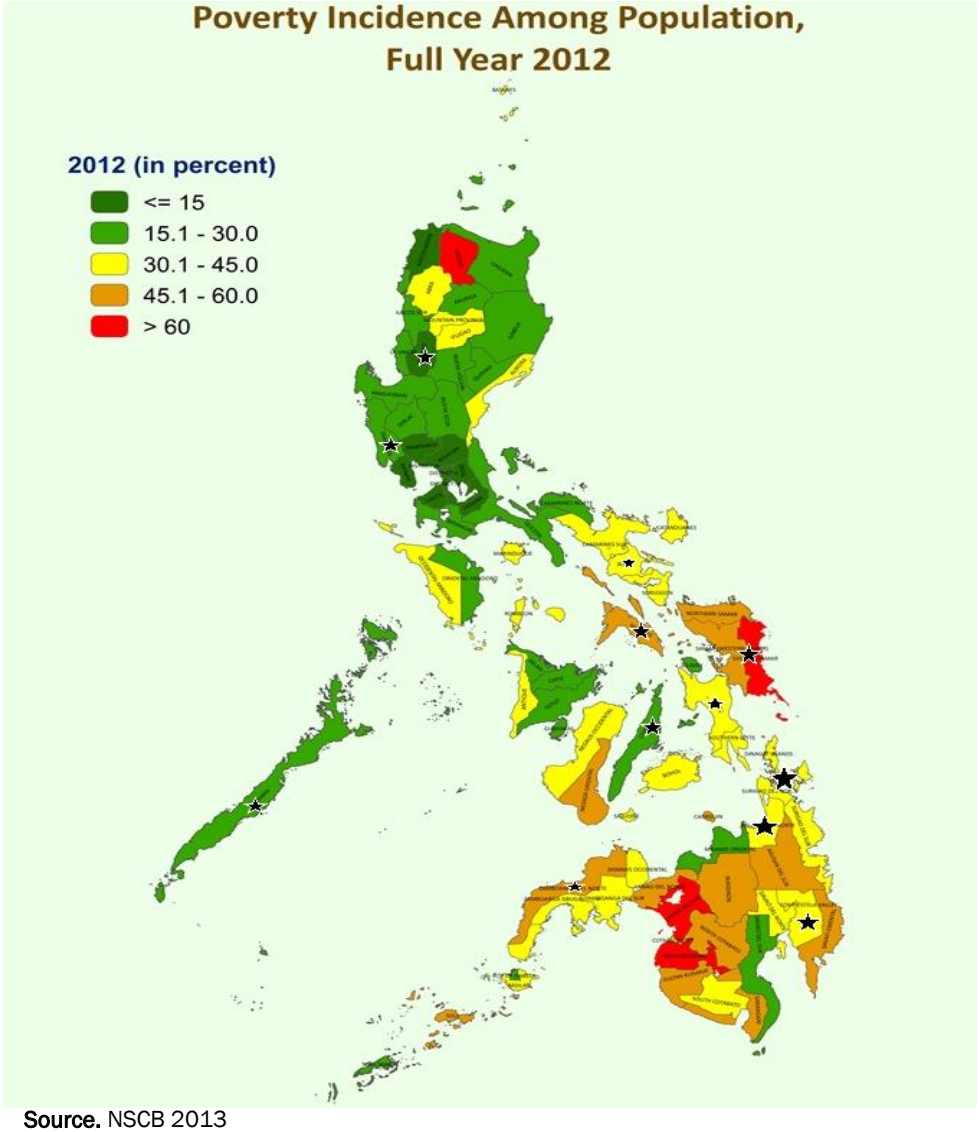
Class	Average Annual Income
Provinces	
First	PHP 450 million or more
Second	PHP 360 million. or more but less than PHP 450 million
Third	PHP 270 million or more but less than PHP 360 million
Fourth	PHP 180 million or more but less than PHP 270 million
Fifth	PHP 90 million or more but less than PHP 180 million
Sixth	Below PHP 90 million
Municipalities	
First	PHP 55 million or more
Second	PHP 45 million or more but less than PHP 55 v
Third	PHP 35 million or more but less than PHP 45 million
Fourth	PHP 25 million or more but less than PHP 35 million
Fifth	PHP 15 million or more but less than PHP 25 million
Sixth	Below PHP 15 M million

Source. DOF 2008a

Yet ironically, except for Zambales and Benguet in Northern Philippines and Palawan in Southern Luzon, these provinces were also among those with the highest incidence of poverty among population in 2012, reaching more than 30 per cent of the population, as shown in the following map of NSCB (See figure 6).[39] This is higher than national average poverty incidence of 25–26 per cent.

[39] A family of five needed PHP 84,205 (USD 1,897.39) annual income to stay out of poverty (Virola 2011).

Figure 6. Poverty incidence among population (per cent) 2012



Source. NSCB 2013

More specifically, table 8 summarizes the poverty incidence for children by region in 2003, 2006 and 2009.[40] The complete list of population poverty incidence of all provinces can be found in annex D. It is worth noting that the poverty incidences for children in mining regions are significantly higher than the national average of 35.2 per cent in 2012. Except for the Cordillera Autonomous Region (CAR), where Benguet can be found, and Region III, where Zambales can be found, the poverty incidence of children ranges from 40 per cent to 57 per cent. In CARAGA region, comprised of Agusan del Norte, Agusan del Sur, Surigao del Norte, Surigao del Sur and Dinagat Islands, all mining provinces, child poverty continued to increase from 58.3 per cent in 2003, to 63.4 per cent in 2009. It has the highest poverty

[40] The NSCB, in its 2009 study of poverty and well-being of children in the Philippines, estimates the number of children in income poverty at 40.8 per cent of the population in 2006 or about 14.4 million poor children. The study said poverty is highest among children of fisherfolk, farmers, migrants and informal sector workers and is worse in rural than in urban areas. The Philippine Institute for Development Studies in 2009 adopted the UNICEF definition of child poverty to include not only income-based poverty but also deprivation from access to opportunities to develop self-esteem and other psychological needs, deprivation from basic services such as electricity, potable water, sanitary toilet, health, education. The expanded definition included children who are victims of discrimination and exclusion, thus explaining the significantly large size of child poverty in the country (CWC 2010).

incidence among children in the country in 2009, but the incidence declined to 49.7 per cent in 2012.

Table 8. Poverty incidence for children, by region: 2006, 2009 and 2012

Region	2006[a]	2009[a]	2012	Increase/decrease	
	Poverty incidence	Poverty incidence	Poverty incidence	Poverty incidence	
				06-09	09-12
Philippines	**35.2**	**35.3**	**35.2**	**0.1**	**(0.1)**
NCR	7.1	6.1	7.1	(1.0)	0.9
CAR	35.2	33.4	31.0	(1.9)	(2.4)
Region I	34.4	29.5	26.6	(4.9)	(2.9)
Region II	34.4	32.9	29.3	(1.5)	(3.6)
Region III	17.5	19.6	19.8	2.0	0.2
Region IVA	15.4	17.6	18.1	2.3	0.5
Region IVB	50.6	44.4	39.9	(6.2)	(4.4)
Region V	53.5	53.4	51.1	(0.1)	(2.3)
Region VI	39.4	41.0	39.9	1.6	(1.1)
Region VII	45.6	40.2	40.4	(5.4)	0.2
Region VIII	51.0	52.6	56.5	1.6	4.0
Region IX	55.0	54.6	48.6	(0.4)	(6.0)
Region X	47.5	49.3	50.6	1.8	1.3
Region XI	39.9	40.8	40.8	0.9	(0.0)
Region XII	45.4	46.7	54.1	1.3	7.4
Caraga	58.3	63.4	49.7	5.1	(13.7)
ARMM	52.6	56.1	64.1	3.5	8.0

Notes: a Poverty estimates for the basic sectors for 2006 and 2009, which were released on 7 June 2012, were revised based on the following: (i) adopt the new urban and rural classification in the Family Income and Expenditure Survey (FIES) as defined in the NSCB Resolution No. 9 Series of 2003; and (ii) use 2006-based Consumer Price Index (CPI) prices in the computation of the food or subsistence thresholds.
A child is an individual under 18 years old based on RA 7610, *Special Protection of Children Against Abuse, Exploitation and Discrimination Act*.
Poverty incidence among children refers to the proportion of children with per capita income less than the per capita poverty threshold to the total number of children.
Source. Philippine Statistics Authority 2015

While the income classification of these mining provinces and municipalities suggests that these LGUs have sufficient funds to support the social and economic needs of their constituencies, the poverty incidence also suggest inequality in income distribution. It also suggests the inability of local governments to strategically spend their money, especially the additional income from the extraction of national wealth to address poverty and promote sustainable development.

Local government spending

Local governments are mandated to spend proceeds from the share in national wealth (natural resources) on livelihood and local development. The average spending of mining provinces for each function as a proportion of total spending and the range of the values from 2005–2010 is summarized in table 9.

Table 9. Functional expenditures of mining provinces as a proportion of total expenditure, 2005-2010

Functional expenditures	2005	2006	2007	2008	2009	2010
General public services as proportion of total expenditure (%)	33.59 [23.12-51.55]	31.58 [19.42-51.55]	31.29 [16.42-47.61]	35.16 [22.11-74.29]	48.88 [30.24-68.27]	48.67 [30.83-72.45]
Education (%)	2.45 [0.86-5.10]	2.14 [0.86-5.10]	2.02 [0.00-4.67]	1.67 [0.00-4.24]	2.99 [0.57-9.80]	3.32 [0.30-20.01]
Health, nutrition and population control (%)	21.43 [8.25-34.95]	17.27 [3.24-32.71]	17.74 [3.56-34.51]	16.36 [3.59-31.68]	17.19 [2.18-37.53]	16.1 [2.20-32.56]
Labour and employment (%)	0	0	0.01 [0.00-0.11]	0.02 [0.00-0.26]	0.02 [0.00-0.26]	0.02 [0.00-0.32]
Housing and community development (%)	0.2 [0.00-1.87]	0.44 [0.00-3.90]	1.01 [0.00-12.28]	0.21 [0.00-2.51]	0.14 [0.00-1.21]	0.08 [0.00-0.50]
Social security/Social services and welfare (%)	0.85 [0.00-2.79]	0.87 [0.25-1.86]	1.29 [0.23-3.09]	1.19 [0.10-5.32]	4.81 [0.35-19.01]	3.55 [0.56-13.94]
Debt service (%)	1.54 [0.00-6.22]	1.4 [0.00-6.32]	1.2 [0.00-5.78]	1.73 [0.00-5.90]	1.45 [0.00-7.71]	2.31 [0.00-9.94]
Economic services (%)	17.99 [8.58-43.16]	21.73 [9.61-43.65]	20.09 [7.78-37.08]	18.61 [2.94-35.08]	24.52 [8.65-45.13]	25.94 [7.65-48.66]
Other purposes (%)	21.95 [8.32-34.71]	24.56 [10.25-39.91]	25.36 [4.24-60.49]	25.06 [1.30-59.52]		
TOTAL (%)	100	100	100	100	100	100

Source. BLGF n.d. (a).

A significant proportion of provinces' expenditure is on general services. This is followed by economic and health services. Social services, education, housing, community development, labour and employment only take a small portion of provincial governments' budget. This spending pattern of mining provinces is consistent with the spending pattern of all LGUs: local governments allocating most of their income for general services, economic services and health services (BLGF 2008). Like the national government, local government revenue is pooled into a general fund that is then disbursed according to the development priorities. Because of this, it is impossible to determine how the income from national wealth (natural resources), particularly mining, was utilized. It is also difficult to conclude how children benefited from the increase in income of provinces due to share in national wealth. Except for health, spending on basic social services like education, social security, labour and employment, hardly make a dent on local governments' total expenditure. While these allocations are low, it is important to note that the total spending of the provincial local governments on these items are still greater than the total share in mineral revenues that they presently receive from the national government. Even if the provinces allocate all the proceeds from mining to basic social services and economic development, the share will not be sufficient to finance the provinces' programmes.

With respect to municipalities, they spent more than 63 per cent of their income on general public services, around 36 per cent on economic and social services, which includes education, health, housing, and welfare and about one per cent on debt service in 2010 (BLGF undated). The income from mining constitutes as much as 43 per cent of some municipalities' annual operating income. In this sense, the proceeds from utilization of national wealth (natural resources) have greater impact at the municipal level than at the provincial level. Allocating these proceeds to basic social services and programmes that will benefit the poorest groups like the farmers, fishing communities and children, is likely to have a significant effect in addressing poverty.

In 2010, the Philippine NGO Coalition did an alternative assessment of the compliance of the Philippine government with its obligations under the Convention on the Rights of the Child. The Coalition examined the government budget and found that spending for basic social services amounted to only 20–30 per cent of total budget at both regional and local levels. The CWC noted that this level is low considering that these services include health, education, welfare and housing, which are critical for meeting basic needs and enabling people to lead a life of dignity (CWC 2010:47). In addition, data on actual spending for children under 18 was inaccessible, and the coalition concluded that the glaring absence of budget allocations for children at the national and local levels reflects the state's lack of commitment to ensuring that these resources are available to address children's concerns. There was a corresponding lack of serious enforcement of laws and policies promoting children's rights and development, protection, and participation in decisions, plans and programmes affecting them (Philippine NGO Coalition on the UN CRC 2010:9, 42–43).

All in all, this section demonstrated that provinces' share of national resource wealth is only about three per cent of its total budget, which is less than the percentage of the provincial budget required to cover basic services like health and education. While it is impossible to track the manner in which local governments are spending the proceeds from mining, it is clear that the share of the province from national wealth is not sufficient to fund its social and economic development programmes. The contribution of the proceeds from utilization of natural resources will have greater impact at the municipal level, where municipal governments spend a greater share of revenue on health and education services. However,

despite presumed availability of income for local governments as indicated by their income classification, poverty incidence remains high in these provinces. This demonstrates the inequality that persists in mineral-rich areas and the need to strategically invest the proceeds from extractive industries to social and economic activities that will benefit the poorest sectors, including children.

Contribution of Mining to Community Development

Mining companies are required by law to assist in the development of their host community and the adjacent communities through the promotion of the general welfare of the residents and the development of science and mining technology by setting up a SDMP. The SDMP is a five-year plan that is prepared in consultation and in partnership with the host and neighbouring communities and the provincial and municipal governments, and has three components: (i) the social development programmes for the residents; (ii) programmes for the advancement of mining technology and geosciences; and (iii) information, education and communication programme for greater public awareness and understanding of responsible mining and geosciences.[41] Social programmes for the communities can include capacity building and programmes that encourage creation of community organizations; enterprise development and creation of market linkages; infrastructure development and maintenance; educational support programmes; health services; and protection and respect of sociocultural values. Social benefits of mine employees and their families are not included in the computation of the cost of the SDMP.

The SDMPs certainly benefit the communities affected by mining. The companies' assistance in providing infrastructure, health services, education and other necessities of the communities, significantly complement the local governments' capacity to provide such programmes, projects and services. However, while the SDMPs are formulated through a consultative process, the recipients as well as the programmes and projects implemented under the SDMPs are selected and identified by the companies based on concerns for the operation's social acceptability — that is, they are usually intended to reduce social conflicts and enhance the company's reputation in order for the company to continue operating. Yet the SDMPs cannot replace effective government programmes in ensuring that the proceeds from the extraction of natural resources are beneficial to the citizens of the country, especially to the children and the next generations. Indeed, the socioeconomic development of mining communities should be a joint responsibility of the state and the mining companies operating in the area. It is also crucial to point out that while the SDMPs of the mining companies have benefited several families and communities, the overall incidence of poverty in the host municipalities remains high.

This need for complementarity between the state and the mining companies has been proven by the experience of Marinduque—the province that used to host one of the biggest copper mines in the world. Marcopper Mining Corporation claimed to have paid billions of dollars in excise and corporate income taxes, yet Marinduque today remains a fourth class province with 30 per cent incidence of poverty. Furthermore, as the Marcopper disaster in 1996

[41] Significantly, contractors are required to annually allot a minimum of 1.5 per cent of their operating costs for the implementation of the SDMP. This should be allocated as follows: 75 per cent for implementation of projects and programmes for social development of the community; 10 per cent of the amount for the improvement of mining technology; and 15 per cent for information, education and communication programmes (DENR 2010). The MGB is responsible for reviewing and approving the SDMPs of large-scale mining companies.

demonstrated, the environmental cost of mining in Marinduque is far greater than the gain the province bargained for (Mendoza et al. 2013).

Based on the Philippine EITI report published in 2014, there is no systematic way of monitoring the social contribution of mining companies through the SDMP because the accuracy of its social contribution cannot be validated. Furthermore, the programmes and projects under the SDMP are not formally linked to the local development plans of local governments. While these projects may contribute positively in the short run, there is no mechanism to sustain these initiatives in the long run. There is also no mechanism to ensure that there is equal or fair access among members of the communities on the services provided by the companies.

The following subsections present case descriptions of SDMPs of two mining companies: the TVI Resource Development Phils. in Zamboanga del Norte as well as Rio Tuba Nickel Mining Corporation and Coral Bay Nickel Corporation in Palawan.

TVI Resource Development Phils. Inc. (TVIRD)

The TVIRD project is a surface mine to extract gold, silver, copper and zinc in Siocon, Zamboanga del Norte. Its 508-hectare Canatuan mine site is located within the ancestral domain of the indigenous Subanon people. The main economic activity in the host municipality is farming and fishery. About 20 per cent of the municipal land area is agricultural and the remaining 80 per cent is forest land. TVIRD is a local mining company affiliated with TVIRD Pacific Inc, a publicly listed Canadian mining company. The company started its operations in 2004 with the production of gold and silver, and commenced mining of copper in 2008. The Canatuan project ended in 2013 (TVI Resource Development Phil Inc. 2013).

The objectives of TVIRD in implementing its SDMP include (i) securing and sustaining social licence for TVIRD activities; (ii) enhancing existing and developing knowledge, values and skills in support of sustainable community development; (iii) building infrastructures relevant to community needs; (iv) increasing awareness of human rights in TVIRD business practice; and (v) stimulate entrepreneurial culture in TVIRD communities (TVIRD Resource Development Phil Inc. 2008). For the pursuit of these, the company has defined its impact communities as those areas directly or indirectly affected by mining operations in social, economic, political and environmental terms. These include 18 villages in the CADT: the villages along the transport route of TVIRD's products from the Canatuan site to the port, and others that TVIRD considered as communities crucial to ensuring continuous operation of the company. Taken together, impact communities include 50 villages, 17 barangays and 3 municipalities/towns.[42] They include about 449 households or 2,243 individuals as direct CADT beneficiaries; of these, 1,430 are indigenous people (IP) (TVI Resource Development Phil Inc. 2008).

TVI Resource Development (TVIRD) has implemented two cycles of SDMP: the first from 2003 to 2008 and the second from 2009 to 2013. During the first cycle of implementation, the company noted that the MGB's guidance in drafting the SDMP was minimal, and the participation of impact communities was inadequate. The company also noted that the SDMP framework and process were not clear: the projects had no sustainability framework;

[42] Several villages compose a barangay, several barangays form a town.

infrastructure projects consumed much of the budget; livelihood programmes were not emphasized; and most of the projects were provided on a dole-out basis (TVI Resource Development Phil Inc. 2008). Due to this assessment, the company tried to improve its second cycle of implementation by focusing on ensuring synergy between the company and the government's development efforts. It now sees the SDMP as an opportunity to facilitate the communities' access to the services and resources of the government, non-government organizations, academic institutions, the church and government agencies (TVI Resource Development Phil Inc. 2008). The formulation of the company's new SDMP was done through participatory rapid appraisal, consultation with community members and a review of barangay development plans. A multistakeholders' team was formed to monitor and ensure the implementation of SDMP and adequate participation of stakeholders.

TVIRD's budget for the implementation of its second cycle of SDMP was PHP 28 million or about PHP 5.6 million a year. This annual budget is about 7 per cent of its host municipality's (Siocon, Zamboanga del Norte) total expenditure in 2010, or close to the total expenditure of the town on health and social services. The programmes and projects include, interventions for (i) health and sanitation, (ii) livelihood, (iii) education, (iv) capacity building, and (v) infrastructure support and disaster management (TVI Resource Development Phil Inc. 2008).[43]

These programmes, while beneficial to the communities in the short run while the company is operating, have no mechanisms for sustainability in the long run. The capacity of local governments to absorb and sustain these programmes was not taken into consideration when the projects were designed and implemented. Most likely, these projects will end when the mining company's operation ends.

Rio Tuba Nickel Mining Corporation (RTN) and Coral Bay Nickel Corporation

The RTN and Coral Bay operations in Rio Tuba, Bataraza, Palawan, involves nickel mining and nickel ore processing. While the mine has been in operation since 1977, the processing of nickel ore in Coral Bay only began in 2005. RTN is partly owned by Nickel Asia Corporation, Philippines' largest producer of lateritic nickel ore.

The host town, Bataraza, is located on the southernmost tip of Palawan Island, and the main sources of income in the town are farming, fishing, and nickel mining and processing. The 2009 report of the Department of Interior and Local Government on the state of local development of Bataraza indicated that simple literacy rate is low. Participation in basic education is also quite low (LGPSM 2009).[44] The report also pointed out concerns of health

[43] Specifically:
1. Health and Sanitation – consists of monthly medical mission and training on traditional medicine.
2. Livelihood – involves the establishment of microfinance programmes in all impact barangays and in the CADT.
3. Education - composed of access to primary and secondary education by the CADT beneficiaries and residents of the CADT areas and access to tertiary education by 15 selected CADT beneficiaries and 10 residents of the impact barangays. This was done through hiring of six teachers for three public schools, conduct of weekly alternative learning ALS classes, college scholarships, and provision of books and other instructional materials.
4. Capacity building – includes conduct of training on human rights, children's rights, ancestral domain, women's rights, indigenous peoples' rights, paralegal and other practical workshops like toilet making, gardening, sustainable livelihood, and agricultural technology and community development.
5. Infrastructure support and disaster management – includes disaster management programme, minimal support for rehabilitation of day care centers, classrooms, health centers, and other community infrastructure and emergency support.

[44] Educational facilities in the municipality include 72 public schools and eight private schools. About 9,745 students were enrolled in 2005. Most of these schools only cater to primary education (Rio Tuba Nickel Mining Corporation 2009).

and sanitation with limited access to sanitary toilet facility and piped-in water, while only 32 per cent of the population in the municipality live in a household with access to electricity (LGPSM 2009). Furthermore, the report also warns about the danger of the presence of polluting industries in coastal areas on marine life, the quality of air in the municipality, and forest resources and wildlife habitat. Large-scale illegal logging and quarrying in forest areas have exacerbated these environmental risks (LGPSM 2009).

The main of objective of Rio Tuba Nickel Mining Corporation and Coral Bay Nickel Corporation in carrying out their SDMP is to promote and enhance the living conditions of the population through the implementation of relevant projects and activities that were identified by the communities themselves. It established a foundation, RTN Foundation Incorporated, to implement its SDMP. The SDMP was formulated based on a community assessment with inputs from community perception surveys, focus group discussions and workshops/trainings, while the programmes and projects implemented were based on the proposals of the barangay. The target recipients of the SDMP were the IP communities and residents of the host barangays, which include Rio Tuba, Ocayan, Taratak, Sandoval and Iwahig. In addition, RTN also implemented projects that benefited IPs outside the host barangays (Nickel Asia Corporation 2011; Rio Tuba Nickel Mining Corporation 2009).

Such projects include infrastructure support; social services like education, health, transportation and communication support; and livelihood assistance and cultural development. First, the Foundation has set up a level-one secondary hospital[45] with a 30-bed capacity inside the RTN compound, more than half of whose 25,575 patients in 2013 were non-employees or non-dependents of the companies. Second, the Foundation has also set up a school supervised by De La Salle Green Hills, one of the top high schools in the country. The school provides primary and secondary education with computer laboratory and high school classrooms equipped with LED TVs connected to Apple TVs and iPads. Around 21 per cent of the students in the schools are outsiders or non-dependents of employees working for RTN and Coral Bay. Third, the Foundation is also implementing an Indigenous Learning System accredited to the Department of Education (DepEd) in three levels up to high school equivalent. About 700 indigenous people are enrolled in the programme, while another 310 IP students are supported by RTN to attend public schools. Finally, the Foundation has also provided housing shelters through its partnership with Gawad Kalinga, a renowned Philippine-based housing and community development charity foundation. A total of 172 housing units were created in 2013, though it is planned that 1,000 housing units will be built by 2018. In addition to all these, RTN also assists in implementing livelihood projects and provide infrastructure projects like water supply system, classrooms, daycare centres, multipurpose pavement, and health centres (Nickel Asia Corporation 2011).

As mentioned previously, these programmes certainly benefit the communities but the challenge is to sustain them after the end of the company's mining operation and link them to the local economic development agenda of the local governments. The sustainability of these programmes will depend on the absorptive capacity of the local governments. If a significant part of a local government unit's income comes from the mining operation, then sustaining these programmes once the operation is over will definitely be a problem. Therefore, it is necessary that local governments and communities are on board when the mining company plans its social development programmes. SDMPs should focus not only on providing social services while the mine is operating but also in ensuring that the programmes are sustainable

[45] The most basic health care provider.

and will have long-term effects. It should include capacity building of local governments in service delivery and programme management, and the design of a financing mechanism that will ensure sustainability. It is also important to ensure that the proceeds from extraction be used to stimulate other economic activities that do not depend on the mining activities so that local governments and the communities will have other sources of income after the mining ends.

Conclusions and Policy Lessons

The Philippines is one of the most resource-rich countries in the world. Unfortunately, the country has so far failed to translate these resources into an engine for growth and development, particularly for children.

On fiscal and economic policies on mining

The current sharing scheme on the revenues from the extraction of resources between the state and the contractors is clearly disadvantageous to the government, which is the owner of the mineral resources. The current tax rates and royalties imposed by the government are relatively low compared to other mineral-rich countries. While the primary concern of the state in formulating its fiscal policy should be to ensure that the benefit the country will gain from the extraction of these resources will outweigh the cost, the status quo shows otherwise. In light of these trends, the following policy recommendations are proposed:

- The government should **increase the excise tax on mining** and impose an additional share on profit to partake on the windfall gains of mining companies when prices of minerals are high.
- The country's **fiscal policy should take into account the actual cost of extracting minerals** in the country rather than focusing on ensuring that the tax rates are globally competitive.
- The state should seriously **consider the creation of downstream industries** to take advantage of creating more economic activities from the extraction of the resources. Policies being being adopted by other mineral-rich countries are increasing the share from extraction of resources and creation of downstream industries based on these resources.

On government spending

Misplaced priorities in terms of spending have resulted in the government being unable to translate the gains from the mineral resources into benefits that contribute to sustainable development, improvement of people's welfare, particularly those of children and ensure intergenerational equity in the benefits of extraction of these natural resources. Mining provinces remain among the poorest provinces in the country, with the poverty incidence of children in these areas higher than the national average. The spending pattern of local governments does not reflect prioritization of basic social services, intergenerational equity and prioritization of children in spending proceeds from extractive activities. Furthermore, there is no mechanism to make local governments accountable for the use of funds from the extraction of natural resources, as all income of local governments are pooled into a general fund, making it impossible to trace how a particular type of income is utilized. For these reasons:

- The government should **adopt mechanisms to ensure the fair and equitable distribution of mining gains.** The government has to ensure that the proceeds from the extraction of natural resources will have long-term benefits for the present and future generations.

- The national government and the local governments **should create financial reserves and sovereign wealth funds**, similar to the Petroleum Fund of Timor Leste and Norway, from the proceeds from extractive industry. The interest earned by the sovereign wealth fund should be earmarked to basic social spending like education, health care, and support to livelihoods and economic activities like agriculture and fishery which are the main economic sustenance of many poor families in mining areas.

- Local governments should **be required to establish their own sovereign wealth funds**. A portion of the proceeds from extraction of mineral resources should go to the sovereign wealth fund and the remaining portion should be earmarked for basic social services, infrastructure and livelihood support.

- The government should **strengthen the governance of the natural resource sector by implementing transparency and accountability initiatives** at the national and subnational level. The scope of EITI implementation in the country should include tracking of how proceeds from mining are being spent both at the national and subnational levels to cover both large-scale and small-scale mining. The government should likewise amend the budget process to earmark revenues from extraction of natural resources to allow for its monitoring. EITI should also include monitoring of environmental and social impacts to communities.

On resource management and governance

Because of the historical experience of the Philippines with mining, protection of the environment and disaster preparedness has been a clear priority in earmarking funds from mining activities. But despite this strong emphasis, large-scale and small-scale mining operations are still associated with environmental destruction. This is primarily due to weak regulatory capacity of the government, which has also serious implications for environmental and child labour issues of small-scale mining activities. Weak regulation of small-scale mining in the Philippines results in weak collection of taxes from mining operators, smuggling of minerals extracted through these operations, the use of child labour, and the use of mercury in processing ores. Instead of benefiting from the extraction of natural resources, children become victims of environmental destruction, human rights abuses and child labour. Therefore:

- **Accountability** of the government and multistakeholders. Mining monitoring teams **should be improved** so that the public can ensure that large-scale mining companies comply with environmental regulations.
- **Comprehensive environmental impact assessment for large-scale mining companies.** Companies should be required to factor in the impact of climate change and the vulnerability of communities to disaster in developing their environmental impact assessment.
- **Strict regulation of the small-scale mining sector.** The government should standardize the fiscal policy governing small-scale mining operations. There should be strict enforcement of environmental rules, particularly the ban on the use of mercury and if possible, cyanide. The government should support the development of technology that will process minerals without the use of hazardous chemicals. This technology should be made available and accessible to small-scale miners. Issuance of licences to small-scale miners should be transparent. The government should enforce the formation of the PMRB, a multistakeholder group responsible for issuing licences and regulating small-scale mining operations. Local governments should ensure that no children are working in small-scale mines and develop incentive mechanisms for parents to send their children to school instead.

On companies' contribution to social development

SDMP, while supporting the needs of the host communities by providing basic services, infrastructure, education and health services, typically remain insufficient to ensure that the proceeds from mining contribute to sustainable development. Providing basic services and infrastructure is not the function of mining companies but of local governments. Relying on companies to provide basic services put the communities under the control of mining companies. In reality, the main purpose of SDMP is to increase the social acceptability of mining projects and ensure that mining operations are not disrupted, while sustainable development remains a secondary priority.[46] Thus:

- The local governments should work with the communities and the mining companies in the formulation of a comprehensive development plan in the host communities. The design of the comprehensive plan should take into consideration the eventual depletion of the mineral resource, the development of economic activities which are not dependent on the mineral resource, the negative impact of the mining operation on agriculture and fishery, and the intergenerational ownership of the resource. A mineral resource fund can be set up to manage the revenue from extractives and ensure that future generations can also benefit from the proceeds.
- Local governments need to realize that the proceeds from mineral extraction should have an intergenerational impact because the minerals are non-renewable resources. The governments have an obligation to ensure that future generations will also benefit from the extraction of mineral resources today. Thus, the proceeds from mining should be invested in programmes and projects that will have long-term impacts. They should **guarantee the protection of basic human rights** of the current and future generations.
- The utilization of natural resources should **guarantee benefits in favour of the communities hosting mining**, because the environmental and social costs of resource extraction have long-term disparate impacts that can have irreversible environmental and social consequences.
- The local governments should also invest in economic activities that are not related to mining. This will ensure that the community has a source of income after the mining ends.

The need for further research

Further studies should be conducted on the legal and regulatory framework of mineral extraction in the Philippines to encourage responsible mining in the country. Studies should likewise be conducted to review available production technologies, locally or globally, that can mitigate the negative externalities associated with mining. Finally, evaluation studies should be conducted to assess the real impact of indigenous peoples' mining royalty to the IP communities and the impact of mining on children's welfare, which currently is difficult to track because of limited information.

[46] Legally, communities like the IPs can recall their consent and stop the operation of mining companies. Local governments can issue ordinances to stop mining operation. Communities can protest and file complaints. It is therefore important for companies to be able to show communities that they have "social contribution". TVI Resource Development Phil stated that the primary objective of their SDMP is "to secure and sustain social license for TVRID activities" (TVI Resource Development Phil Inc. 2008:5).

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Annexes

Annex A. Selected mineral resource/reserve inventory of the Philippines by region, as of 2013

REGION	GOLD		COPPER		NICKEL		CHROMITE		ZINC	
	TONNAGE	Ave. Grade	TONNAGE	Ave. Grade	TONNAGE	Ave. Grade	TONNAGE	Ave. Grade	TONNAGE	Ave. Grade
		g/t Au		% Cu		% Ni		% Cr_2O_2		% Zn
I	861,000	0.46	11,714,540	0.8	-	-	135,210	39.6	-	-
II	44,700,000	1.28	44,700,000	0.43	6,881,100	1.87	92,180	39.66	-	-
III	34,820	1.92	79,449,000	0.36	260,128,752	1.32	47,177,935	2.85	-	-
IV A	6,551,280	1.93	-	-	-	-	-	-	-	-
IV B	-	-	178,000,000	0.44	271,612,678	1.2	7,821,150	33.1	-	-
V	122,190,488	2.14	11,625,890	1.48	2,500,000	60	2,339,890	21.65	11,217,248	2.68
VI	338,400,000	2.53	440,910,000	0.41	-	-	-	-	-	-
VII	-	-	555,677,394	0.34	-	-	150,000	48	-	-
VIII	132,800	11.4	34,525,000	0.67	1,160,000	2.36	8,523,009	27.75	-	-
IX	28,614,532	1	212,528	3.21	-	-	2,632,710	37.8	-	-
X	1,073,000	5.28	-	-	-	-	2,713,750	16.75	-	-
XI	892,782,300	1.51	528,362,689	0.38	428,778,800	1.32	842,300	43.54	-	-
XII	2,273,900,054	0.2	4,277,669,001	1.1	327,000,000	0.9	-	-	-	-
XIII	378,965,747	1.48	300,000,000	3.9	666,840,430	1.14	9,823,525	11.72	-	-
CAR	447,319,321	1.18	1,267,491,801	0.45	-	-	3,003	0.08	335,685	18.81
Total	**4,535,525,342**	**0.91**	**7,730,337,843**	**0.93**	**1,964,901,760**	**1.25**	**82,254,662**	**12.08**	**11,552,993**	**3.15**

Source. Mines and Geoscience Bureau 2014

Annex B. Summary of annual operating income of mining provinces for 2010

Province	Local Sources (Tax and Non-Tax Revenue		Internal Revenue Allotment		Other Shares from Nat'l. Tax Collections		Inter-local Transfer		Extaordinary Receipts/Grants/Donations /Aids		TOTAL CURREN OPERATING INCOME
	PHP	%	PHP	%	PHP	%	PHP	%	PHP	%	PHP
Zambales	127,722,538	17	602,627,351	82.08	3,833,867	0.50	0	0.00	0	0.00	734,183,756
Palawan	174,055,751	10	1,183,132,512	65.98	10,914,678	0.60	0	0.00	425,066,772	23.70	1,793,169,713
Albay	175,734,316	14	855,616,810	70.41	8,422,078	0.70	0	0.00	175,361,166	14.43	1,215,134,370
Camarines Norte	90,132,930	13	545,816,385	81.10	32,515	0.00	37,000,000	5.50	0	0.00	672,981,829
Masbate	55,164,237	7	746,134,818	89.82	2,485,498	0.30	118,000	0.01	26,821,367	3.23	830,723,920
Eastern Samar	38,871,527	5	617,518,638	87.03	1,639,895	0.20	6,000,000	0.85	45,480,000	6.41	709,510,060
Leyte	244,334,473	14	1,111,992,636	65.57	1,790,368	0.10	337,563,173	19.91	100,000	0.01	1,695,780,650
Zamb. Del Norte	121,772,136	10	970,935,732	78.52	3,830,182	0.30	16,388,350	1.33	123,580,266	9.99	1,236,506,666
Compostela Valley	130,592,413	16	676,841,937	83.81	196,789	0.00	0	0.00	0	0.00	807,631,138
Benguet	156,302,981	23	506,493,955	74.03	21,328,047	3.10	0	0.00	8,766	0.00	684,133,749
Agusan Del Sur	124,505,725	12	934,944,092	86.48	534,389	0.00	6,226	0.00	21,067,446	1.95	1,081,057,878
Dinagat Islands	17,264,479	6	284,032,784	93.94	1,049,944	0.30	0	0.00	0	0.00	302,347,207
Surigao Del Norte	267,945,867	34	496,155,631	62.34	31,813,658	4.00	0	0.00	0	0.00	795,915,157
Surigao Del Sur	56,382,912	8	682,017,768	91.00	11,040,522	1.50	0	0.00	0	0.00	749,441,202

Source. BLGF n.d. (a).

Annex C. Annual operating income of mining municipalities, 2010

Province	Municipality	Total Local Sources		Internal Revenue Allotment		Other Shares from Nat'l. Tax Collections		Inter-local Transfer		Extaordinary Receipts/Grants/Donations/Aids	
		PHP	%	PHP	%	PHP	%	PHP	%	PHP	%
Zambales	Sta. Cruz	9,172,280	9.12	90,524,574	89.97	914,995	0.91	0	0.00	0	0.0
Palawan	Quezon	7,249,525	5.49	124,651,283	94.44	83,050	0.06	0	0.00	0	0.0
Albay	Rapu-Rapu	46,861,689	42.95	53,575,745	49.10	3,035,644	2.78	0	0.00	5,631,737	5.1
Masbate	Aroroy	69,018,183	38.36	98,975,291	55.01	5,471,639	3.04	0	0.00	6,459,689	3.5
Eastern Samar	Guiuan	11,211,204	15.01	63,319,293	84.76	177,309	0.24	0	0.00	0	0.0
Leyte	Javier	2,888,908	5.93	45,827,035	94.03	20,485	0.04	0	0.00	0	0.0
Leyte	McArthur	1,772,925	4.95	34,046,246	95.05	0	0.00	0	0.00	0	0.0
Zamb. Del Norte	Siocon	12,891,538	12.31	85,944,015	82.08	5,867,481	5.60	0	0.00	0	0.0
Compostela Valley	Maco	32,079,898	24.16	97,440,105	73.38	433,192	0.33	2,839,837	2.14	0	0.0
Benguet	Mankayan	8,631,324	12.73	53,175,863	78.45	3,194,767	4.71	577,786	0.85	2,200,000	3.2
Benguet	Tuba	14,773,927	15.72	69,809,508	74.30	9,376,285	9.98	0	0.00	0	0.0
Agusan Del Norte	Tubay	2,713,356	5.37	40,975,846	81.04	3,936,776	7.79	0	0.00	2,934,207	5.8
Agusan Del Sur	Rosario	18,382,860	20.80	68,840,256	77.91	14,231	0.02	1,121,999	1.27	2,610	0.0
Dinagat Islands	Basilisa (Rizal)	2,214,320	4.45	47,554,419	95.55	0	0.00	0	0.00	0	0.0
Dinagat Islands	Loreto	8,208,919	16.23	41,332,699	81.70	1,051,004	2.08	0	0.00	0	0.0
Dinagat Islands	San Jose	4,127,584	9.38	39,896,655	90.62	0	0.00	0	0.00	0	0.0
Surigao Del Norte	Claver	7,659,441	8.20	53,850,967	57.67	31,875,056	34.13	0	0.00	0	0.0
Surigao Del Norte	Taganaan	6,860,572	9.70	33,436,458	47.27	30,225,588	42.73	213,244	0.30	0	0.0
Surigao Del Norte	Tubod	3,217,596	10.07	28,747,908	89.93	0	0.00	0	0.00	0	0.0
Surigao Del	Carrascal	43,130,981	40.59	46,717,003	43.97	16,406,091	15.44	0	0.00	0	0.0

Sur											
Surigao Del Sur	Cantilan	11,517,144	16.86	56,800,104	83.14	0	0	0	0.00	0	0.0
Cebu	Toledo City	170,243,108	30.87	376,632,442	68.30	4,571,869	1	0	0.00	0	0.0

Source. BLGF n.d. (a)

Annex D. Annual poverty incidence and magnitude of poor population

Region/Province	Poverty Incidence among Population (per cent)			Magnitude of Poor Population		
	Estimate (per cent)			Estimate		
	2003	2006	2009	2003	2006	2009
Zamboanga del Norte	64.2	59.5	61.6	537,442	557,351	617,057
Agusan del Sur	56.0	53.9	58.1	313,709	319,936	343,060
Surigao Del Norte	49.3	50.2	57.0	229,184	258,241	284,320
Masbate	56.9	52.0	54.2	422,714	425,966	41,688
Eastern Samar	36.4	47.8	54.0	141,236	206,979	237,122
Romblon	42.2	50.3	54.0	114,152	146,854	178,583
Maguindanao	50.8	53.4	53.7	393,374	459,344	437,790
Davao Oriental	45.9	46.9	52.7	202,269	218,086	251,274
Saranggani	43.4	41.3	51.8	205,411	215,466	249,410
Northern Samar	44.6	53.8	51.2	236,120	298,398	292,874
Zamboanga Sibugay	52.4	39.9	49.8	267,482	232,874	226,339
Bohol	45.3	51.9	48.3	488,150	589,765	589,257
Camarines Sur	45.4	44.9	47.0	722,953	760,730	794,832
Sulu	26.7	42.3	46.1	157,515	251,477	408,859
Aklan	38.5	41.6	46.1	159,804	193,956	205,197
Misamis Occidental	43.7	45.2	45.7	211,890	236,744	310,628
Mt. Province	47.4	39.7	45.7	65,860	58,738	62,671
Lanao del Norte	42.9	42.2	45.6	321,328	336,730	400,525
Western Samar	33.9	38.1	45.0	242,397	271,275	339,505
Surigao Del Sur	43.9	42.6	44.9	212,676	223,100	261,248
Lanao del Sur	18.8	31.6	44.8	126,943	238,991	363,340
Sultan Kudarat	44.7	45.7	44.6	267,700	299,058	260,032
Camiguin	41.6	41.4	44.6	30,851	34,631	52,001
Abra	33.3	41.0	43.7	66,371	86,961	94,088
Albay	43.1	42.8	43.6	469,297	512,762	512,079
Southern Leyte	37.7	30.2	43.3	134,964	109,956	154,491
Apayao	15.9	41.7	43.2	15,666	44,890	51,193
Camarines Norte	50.3	41.5	42.3	244,489	215,911	232,685
Negros Oriental	49.4	48.7	41.9	572,489	592,052	485,080
Bukidnon	40.0	39.3	41.5	428,952	462,307	431,453
Sorsogon	38.9	44.9	41.3	268,809	320,858	374,183
Antique	41.9	42.6	39.3	199,459	210,707	169,679
Tawi-tawi	22.7	50.3	38.4	72,207	200,047	114,318
Siquijor	53.0	22.8	38.0	39,815	19,403	37,793
Compostela Valley	40.7	36.8	36.7	248,276	235,213	212,191
Occidental Mindoro	41.8	50.3	36.3	168,658	233,313	160,562
Biliran	38.2	33.8	34.9	53,044	53,429	79,153
Marinduque	40.0	39.9	34.9	85,394	93,336	88,406
Agusan del Norte	30.1	30.0	34.9	165,097	177,297	242,377

Leyte	37.2	34.9	34.3	608,787	625,030	628,472
Davao del Norte	32.7	38.2	33.9	255,853	300,766	258,406
North Cotabato	28.3	29.0	33.3	279,811	293,769	344,421
Oriental Mindoro	30.8	41.7	32.8	223,347	319,523	279,343
Quezon	28.8	35.2	32.5	476,680	611,900	582,752
Negros Occidental	28.2	29.8	32.2	712,944	793,599	915,157
Nueva Ecija	22.6	30.5	31.1	402,503	535,535	611,426
Zamboanga del Sur	33.6	28.4	30.9	496,100	456,445	488,981
La Union	22.0	26.4	30.6	144,093	186,393	225,977
Misamis Oriental	33.1	36.0	30.3	389,678	459,519	392,062
Cebu	30.5	32.1	30.0	1,074,813	1,224,426	1,256,232
Basilan	27.3	30.4	29.8	66,001	82,293	64,550
Palawan	39.0	36.4	29.5	315,021	329,014	273,648
South Cotabato	27.5	27.6	29.5	329,894	348,140	440,681
Ifugao	30.1	24.0	28.9	50,989	41,474	48,793
Capiz	29.0	25.8	28.8	193,005	175,432	215,033
Catanduanes	34.6	44.3	28.5	72,174	99,457	66,801
Cotabato City	31.2	25.9	27.3	54,350	47,282	37,516
Iloilo	28.7	21.8	26.8	526,273	437,040	569,097
Kalinga	34.1	39.7	25.9	61,422	72,726	50,198
Pangasinan	23.3	30.4	25.0	578,319	813,154	686,356
Davao del Sur	24.2	24.3	24.6	496,080	504,564	557,114
Aurora	30.5	33.1	24.2	51,862	60,025	31,949
Isabela City	32.3	36.4	23.4	24,766	27,183	28,910
Isabela	21.5	23.2	21.2	266,610	299,416	283,068
Cagayan	23.1	21.6	20.6	212,054	212,386	209,910
Guimaras	47.5	25.4	20.5	64,283	37,870	39,092
Tarlac	14.3	21.2	19.8	161,965	251,905	239,002
Batangas	18.5	16.4	18.8	367,438	329,514	409,360
Zambales	15.1	25.1	18.3	98,097	175,385	111,662
Ilocos Sur	25.3	20.0	17.0	138,041	112,876	100,882
Ilocos Norte	18.9	15.1	12.4	92,926	80,446	71,864
Quirino	20.6	12.8	12.3	31,917	20,512	22,650
Bataan	11.4	11.5	10.3	65,420	67,576	71,441
Rizal	4.3	3.6	9.5	87,189	73,040	213,092
Pampanga	6.9	5.2	9.1	135,512	114,132	194,315
Nueva Vizcaya	4.5	8.6	8.7	16,453	31,589	29,426
Laguna	6.8	5.7	8.0	150,989	129,022	185,023
Bulacan	6.7	7.6	7.0	168,979	202,287	197,210
Cavite	6.7	6.2	6.4	162,512	159,568	176,133
Benguet	6.6	5.2	5.8	39,449	33,480	39,249
Batanes	9.0	-	-	1,459	-	-

*Highlighted lines indicate mining provinces
Source. NSCB 2013

Annex E. Impact of mining on environment, health, human rights and child labour

Environment

There are very strong negative sentiments regarding the operation of large-scale mines in the Philippines. This is because of lack of transparency of the industry, the environmental damages and loss in human lives and resources that many communities experienced (Artajo 2012). The Philippines is host to hundreds of abandoned mines which many people believed had negative impact on the environmental quality and health of people living in the area (Stark et al. 2006). Pollution of rivers, deforestation of watershed areas, tailings spills and collapse of tailings dams, which cause siltation of rivers and irrigation systems, kill fish, inundate agricultural land with tailings, lead to loss of lives, homes and livestocks—as well as knowledge about similar experiences in other countries—contributed to the growing constituency against mining in the Philippines (Stark et al. 2006). Among the worst mining disasters in the country happened in Marinduque when the drainage tunnel of the open pit burst and released 2 to 3 million cubic meters of mine tailings into the Boac River, floodibg farmlands and villages along its bank (Landingin and Aguilar 2012). More recently, in 2012, Philex Mining Corporation shut down its mining operation in Padcal, Benguet, upon the order of the MGB because of leaks from its tailings pond (Cuevas-Miel 2012). The leak was said to have spilled about 6 million metric tons of tailings in Balog and Agno rivers. The government imposed a fine of PHP 1.034 billion for the damage caused by the leak (Tribune 2013).

An investigative report by Newsbreak showed that during the time of President Gloria Macapagal-Arroyo, 10 of the 24 mining companies operating in areas which are considered high priority mining expansion and development projects, figured in accidents or were subject of pollution investigation in the last two decades (Rappler.com 2013). Many of these companies continue to be active players in the industry (Rappler.com 2013).

Small-scale mining contributes to environmental damage. Deforestation of forests results from cutting timber to support mine tunnels; discharge of waste rocks leads to soil erosion, landslides, siltation of rivers and destruction of crops and properties; emission of toxic substance like cyanide and mercury through chemical spills; and processing of ores, underground tunnel collapse and gas poisoning .[47] A popular way of surface mining using hydraulic hose and sluice boxes called *banlas* destroys vegetation, causes soil erosion, exposes tree roots, silts and pollutes rivers through the use of mercury (AFRIM 2012). Gold processing in small-scale mining areas poses a danger to health because of the use of mercury and the emission of fumes. In other areas, leaching plants use cyanide, nitric acid and zinc. Tailing ponds that are not constructed to meet safety standards result in contaminating soil with heavy metals (AFRIM 2012).

The problems identified with small-scale miners are results of systemic problems: (i) the lack of an alternative livelihood to mining; (ii) the absence of basic infrastructure and social services, which contributes to the poor condition of the miners (iii) irresponsive and irrelevant laws that limit the expansion of production of small-scale miners and restrict their access to different support mechanisms such as credit facilities and technology (Artajo 2012).

[47] Bugnosen 2000; AFRIM 2012; Zubiri 2010.

Human rights

On top of these disasters, mining is also associated with human rights abuses. As of 2011, about 30 environmental activists had been killed or been victims of enforced disappearance or attempted assassination (Whitmore 2011). Among those killed were anti-mining activists and leaders of communities of indigenous peoples (Minority Rights Group International 2012).

A complaint was filed before the Commission on Human Rights by the residents of Didipio in Nueva Viscaya against Oceana Gold Philippines Inc. The residents accused the company and the security sector of violating thehuman rights of residents opposing mining in the area. The complaint stated that the company violently demolished houses, and residents who resisted were beaten. The company also fenced off large sections of the roads and pathways used by residents to transport their farm produce to the market. There were reports of increased militarization in the area. Protesting residents were violently dispersed by over 100 members of the PNP who allegedly used truncheons, shields and tear gas (Commission on Human Rights 2011).

In its independent investigation, the Commission on Human Rights concluded that Oceana Gold Philippines Inc. violated the rights of Didipio residents (Commission on Human Rights 2011). The national government has yet to act on the findings.

Child labour, health and occupational hazards

Mining has been identified as one of the most hazardous occupations for young workers in the Philippines. According to the 2011 Survey on Children of the National Statistics Office, about 5,492 million children aged 5 to 17 were working. More than half (54.5 per cent) of those considered as child labourers were involved in hazardous work (NSO 2012). In 2001, about 18,000 children were working in small-scale gold mines in the country, a figure that many groups believed to be an underestimation (Human Rights Education Associates 2009; Price 2012).

There are two types of small-scale miners in the Philippines, and they employ different mining methods: the traditional gold miners and the gold rush miners. The traditional gold miners normally use the gravity concentration technique which involves sluicing and panning while gold rush miners practice amalgamation[48] or compressor mining[49] which involved the use of mercury to recover gold (Artajo 2012).

Exploitation of workers, especially minors, and the lack of social security benefits and access to basic services are common in small-scale mining areas (Zubiri 2010). Small-scale miners lack access to occupational health and safety programmes and have limited access to social protection schemes like health insurance.[50]

Despite the safety and health risks and other problems associated with small-scale mining, the activity provides a viable option for families with very low income or no alternative livelihood, which means that it is largely informal (Artajo 2012).

In 1998, the Occupational Safety and Health Center (OCHS) of the Department of Labour and Employment conducted a mission to Paracale, Camarines Norte, to evaluate

[48] Amalgamation involves the use of mercury mix with the slurry in a ball mill/rod mill or applied with gold concentrates during panning.

[49] Compressor mining involves digging a tunnel, filling it with water to prevent it from collapsing and descending into the tunnel using plastic hose tucked inside the mouth and attached to a compressor for artificial air.

[50] Artajo 2012; AFRIM 2012; Zubiri 2010.

child labour activities and assess the occupational safety and health aspects of small-scale mining in the gold rush town. Paracale is a gold rush area with 27 villages, 15 of which are involved in small-scale mining. About 45 per cent of the households are dependent on small-scale gold mining. Most households live in a state of poverty and indebtedness.

The team conducted a rapid assessment survey of 94 working children in the small-scale mining areas. The children were also examined clinically; x-rays were carried out, as well as laboratory tests were conducted to examine their blood and urine for traces of mercury and lead. The findings were as follows (OSHC 1998):

- The mean age of respondents was 15.46. Majority of the respondents (67 per cent) were 12 to 17 years old.
- About 46 per cent left school, while 15 per cent combined school and work. About 28 per cent were migrants from other provinces.
- About 14 per cent of the children were involved in underground work, 18 per cent in processing and 5 per cent carried the ores from the tunnel to the ball-milling sites. The average weight carried was about 13.5 kilos. About half of the respondents combined all forms of mine work.
- Of the respondents, 32 per cent received earnings of PHP 5 to PHP 100 on a price rate basis. About 10 per cent received daily pay ranging from PHP 20 to PHP 200 per week. About 19 per cent received PHP 50 to PHP 800 while others claimed to have earned PHP 100 to PHP 10,000.
- Most of the children knew that mercury and heat were hazards in their work. A third of the respondents reported heavy loads and cold, and a quarter mentioned their exposure to nitric acid.
- Most children had taken their decision to work (71.9 per cent) while others said that they were told by parents or relatives to work.
- The main clinical findings showed that about 10 per cent had respiratory and urogenital problems and 8 per cent had ear injuries in the past. The most common current complaints were respiratory in nature.
- Mercury level exceeded the threshold limit value (TLV) of 0.05 mg/m^3 at all measuring points. Noise level measurement showed that in two areas, noise exceeded the TLV level of 90dB(h) for an 8-hour exposure.

The study showed the tremendous risks of the workers in developing safety and health problems. This is due to (i) extremely dangerous underground work, (ii) poor working conditions, (iii) exposure to toxic substances and dust, (iv) lack of protective equipment and (v) very limited access to welfare health and safety facilities (OSHC 1998).

Another case study of children in small-scale mining in Sibutad, Zamboanga del Norte, in 1999 had similar observations. The process of mining which involved both children and parents used "primitive and unsafe mining methods, inadequate equipment, and daring and unsafe practices" (Estrella-Gust 1999:2). The children worked inside the tunnels, pounded ores, panned gold and hauled sacks of ores on their backs which on average weighed about 28 kg to the ball-milling site that is 400-600 metres away. They also sold water to the workers, carrying 20 litres of water to the mine site. They processed minerals which exposed them to mercury, and only one child wore gloves as

protection in doing tasks. The children's ages ranged from 7 to 18. Most of them combined work with school. They generally belonged to large families with an average of six siblings. Few children said that their parents influenced their decision to work in the mines; most of them said that it was their own decision to work. The bulk of their earnings went to their parents as a contribution to household income. Although the families were aware of the hazards of mining, they said that there was no alternative work to supplement the family income. The families had limited access to health care. The common health symptoms of children in the area included sleep disorder, poor appetite, muscle weakness, skin lesions, back pain, muscle pain and joint/muscle stiffness. However, the laboratory tests showed the levels of mercury in blood and urine to be within normal limits among all children (Estrella-Gust 1999).

The Alternate Forum for Research in Mindanao carried out a case study of small-scale mining in Barangay Kematu, T'boli, South Cotabato, in 2012. The town hosts a minahang bayan in the province. About 5,000 individuals, including women and children, work in mining, with 85 per cent working in small-scale mining while the remaining 15 per cent works for a large-scale mining operation. The children who worked, packed and transported ores to the processing mills, and operated ball mills in the processing area, had dropped out of school (AFRIM 2012).