

**Safety and working conditions in small-
scale mining: The case of selected
small-scale metallic mines
in the Philippines**

by

Malorie Joy O. Mones

International Labour Organization
Country Office for the Philippines

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First published (2018)

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978-92-2-132701-1 (print)

978-92-2-132702-8 (web pdf)

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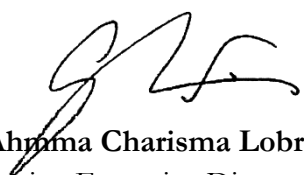
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Foreword (ILS)

The Philippines' ratification of the Health and Safety in Mines Convention, C. 176 in 1998 reflects the commitment of the government and its social partners to comply with minimum global standards on health and safety of workers engaged in all types of mining: surface or underground and large- or small-scale. It is important to ensure that our existing national policies, rules and regulations, and even practices at the mine sites are consistent with the minimum international labor standards. While it is true that there is no one-size-fits-all approach, it is important to continuously aim to seek for ways on how to better guarantee a safer and healthier working environment for mine workers.

It is in this context that this research was undertaken by the Department of Labor and Employment-Institute for Labor Studies (DOLE-ILS) to provide information on the extent as to how the required measures, in law and practice, are observed in the Philippines. Moreover, the study aims to guide policy and decision makers on the issues that constrain the country's compliance with international instruments. Hopefully, the information gathered through this research undertaking would serve as inputs to the development of responsive and relevant policies and programs that would address decent work deficits in the mining sector.

Let me thank the International Labour Organization (ILO) for their support in this research initiative. This is an affirmation of our mutual commitment to work together toward the attainment of our common agenda of promoting the safety and health of our workers in the mining sector.



Ahnima Charisma Lobrin-Satumba
Acting Executive Director III
Institute for Labor Studies

Foreword (ILO)

Both surface and underground, mines are experiencing continued heavy loss of life due to problems of occupational safety and health and catastrophic events associated with the unique and constantly changing working environment.

At the 82nd session of the International Labour Conference in 1995, the International Labour Organization (ILO) adopted ILO Convention No. 176 and Recommendation No. 183 to address the questions of safety and health in mines.

The Philippines commitment to address issues on occupational safety and health in mines was demonstrated through the ratification of ILO Convention No. 176 in 1998.

The ILO welcomes the research undertaken by the Institute for Labor Studies (ILS) under the Department of Labor and Employment (DOLE) covering useful practices to promote improved application of the Convention.

The ILO looks forward to further use of this study as an instrument to carry our policy reforms as well as better enforcement of labour standards in the mining sector, which may entail closer collaboration with other government agencies as well as the Mining Industry Tripartite Council.

Through this study, the ILO remains hopeful that the recommendations will enhance the working conditions and safety measures for the workers in this mining sector.



Khalid Hassan

Director

International Labour Organization (ILO)
Country Office for the Philippines

Acknowledgements

The author would like to express sincere gratitude to the small-scale mining communities for their participation in the research. Special thanks is also extended to the people from various agencies and organizations who shared their inputs and have helped in the conduct of fieldwork in the provinces covered. Lastly, the author would like to express appreciation to all the staff of the Institute for Labor Studies who provided assistance and review of the study, as well as to the staff of the International Labour Organization for their support in the implementation of this research project.

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Abbreviations

BSP	Bangko Sentral ng Pilipinas
C176	Safety and Health in Mines Convention, 1995 (No. 176)
CAS	Committee on the Application of Standards
CEACR	Committee of Experts on the Application of Conventions and Recommendations
CDMP	Community Development and Management Programme
DAO	DENR Administrative Order
DENR	Department of Environment and Natural Resources
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DO	DOLE Order
EO	Executive Order
FGD	Focus Group Discussion
ID	Identity Document
ILC	International Labour Conference
ILO	International Labour Organization
IRR	Implementing Rules and Regulations
LGUs	Local Government Units
MDRRMC	Municipal Disaster Risk Reduction Management Council
MGB	Mines and Geosciences Bureau
MENRO	Municipal Environment and Natural Resources Office
OSH	Occupational Safety and Health
P/CMRB	Provincial/City Mining Regulatory Board
PD	Presidential Decree
PEMO	Provincial Environment and Management Office
PENRO	Provincial Environment and Natural Resources Office
PPE	Personal Protection Equipment
RA	Republic Act
SSM	Small-Scale Mining
SSMP	Small-Scale Mining Permit
UN	United Nations

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by

Malorie Joy O. Mones¹

ABSTRACT

Hazards in workplaces are common especially in sectors where informal arrangement exists such as in small-scale mining. Although there is dearth of data on reported injuries, accidents or casualties, it is of great consideration that problems on safety and working conditions in this sector are addressed given the risks to which workers are exposed. Focusing on the six mine sites from four provinces in the Philippines, this research examines the existing policies and regulations that govern mine safety and the working conditions of those engaged in the small-scale mining. This study uses a mix of qualitative and quantitative research tools for the data-gathering. Results of the study indicate that: (a) the definition of small-scale mining in the Philippines needs to be revisited given the gaps between the definition and practices in terms of mode of extraction; (b) varied safety measures and practices are undertaken by different small-scale mining communities; and (c) labour standards and social protection concerns are not so much emphasized as compared to the challenges pertaining to legalization requirements and processes. Based on the findings of this study, it is recommended that safety and health policies and programmes should be formulated in consideration with the context within which the small-scale miners are situated. There could be a progressive adoption of rules in line with the International Labour Organization (ILO) Convention No. 176 that must be done but on case to case basis and in consultation with whom the rules are to be implemented. Lastly, there should be convergence among concerned agencies, especially at the local level, in line with the harmonization of policies on safety and other issues faced by small-scale mining communities toward their formalization.

1. INTRODUCTION

The Philippine mining industry's great potential to contribute to the regional and national development has long been a debatable issue. However, it is without a doubt that the Philippines is endowed with mineral resources given its geographical setting. The Fraser Institute of Canada, a public policy research organization, puts the Philippines among the top ten countries, which are most attractive for mineral development based on mineral potential alone (Boquet, 2017). It is

¹*The views and opinions in this study/research are those of the author and do not necessarily reflect the official views of the International Labour Organization (ILO). Findings are meant to stimulate dialogue, and do not imply an expression of opinion, direct recommendation or any form of endorsement on the part of the ILO.*

estimated that around 236,000 workers are employed in the minerals industry where it is assumed that for every one job, about four indirect jobs may be generated in the upstream and downstream areas (MGB, 2016). Nonetheless, workers, specifically in the small-scale mining sector, are often the least protected, with relatively low levels of income and less formal work arrangements. Hence, many of these jobs are precarious and are far from conforming to international and national labour standards.

In the Philippines, mining is generally classified into large-scale and small-scale. While issues in large-scale mining exist, the small-scale mining has also gained increasing attention due to poor labour practices, environmental destruction and child labour. Though it provides economic opportunities particularly for many people in the remote areas lacking alternative sources of employment or income, small-scale mining operations had recurring issues especially on adhering to occupational health and safety regulations.

In 1998, the Philippines ratified ILO Convention 176 (Safety and Health in Mines, 1995) which provides the minimum safety requirements for mine operations. Moreover, the Report for discussion at the Tripartite Meeting on Social and Labour Issues in Small-scale Mines of ILO (1999) underscored that labour and social issues must be addressed and that the safe and efficient operations of these mines must be ensured.

1.1 Research problem

Occupational safety and health is one of the fundamental pillars of decent work. Despite notable decent work gains, much remains to be done in terms of ensuring compliance with occupational safety and health standards. Hazards in workplaces are common, especially in sectors where informal arrangement exists. Artisanal and small-scale mining in the Philippines and in many developing countries has become a focus of research and dialogue not just because of its critical contribution to poverty reduction but also because of its precarious working conditions resulting from highly informal set-up.

While large-scale mining companies dominate in terms of production and revenue, the small-scale mining remains to be a key player, particularly in many developing countries (IIED-WBCSD, 2002). The sector remains to be a major economic contributor especially in remote communities, where thousands of small-scale mining operations are engaged in gold, other metallic and non-metallic minerals. Of the recorded mineral production in the Philippines, a substantial portion of annual gold production comes from small-scale mining (Llaguno, et al., 2016). However, small-scale mining is confronted with issues and challenges such as informality, statistical invisibility in terms of actual contribution to mineral production in the country, and hazardous working conditions.

Hence, it is essential to encourage the use of good practices for mining toward ensuring health and safety especially to the workers. It is in this context that this study on safety and working conditions in the small-scale metallic mining sector in the Philippines is undertaken.

1.2 Objectives

This study seeks to examine the existing policies and regulations that govern mine safety, as well as the working conditions and existing practices of those engaged in the small-scale metallic mining in the country.

Specifically, this study intends to:

- a. Describe the working conditions and the existing work arrangement practices;
- b. Map regulatory practices and identify gaps, challenges, and models or partnerships that hinder or promote safety in small-scale metallic mining; and
- c. Provide policy recommendations or options that could enhance the working condition and improve safety and health measures in the sector.

2. RESEARCH DESIGN AND METHODOLOGY

This research uses a qualitative case study as research design and employs the following qualitative and quantitative research tools for data collection:

- a. Review of documents – a review of available documents and literature on the existing policies, rules and regulations, programmes and other reports regarding safety and working conditions in the small-scale metallic mining in the Philippines.
- b. Conduct of survey – using a convenience sampling technique, at least five workers in the mines (team leader, digger, administrative staff, packer, etc.) are surveyed in each of the areas covered.
- c. Key informant interview – semi-structured interview with the permittee/contractor/operator, president of association/cooperative, representatives from the local government units (LGUs), or officials and staff from MGB Regional Offices in the areas covered.
- d. On-site observation – in consultation with the mining communities and concerned authorities, actual mine site observations were conducted in selected mine sites covered in the study.
- e. Validation workshop – conduct of island-wide stakeholders' validation in Manila and Butuan City to present the initial findings of the study and solicit inputs and additional information on the subject matter from various stakeholders.
- f. Focus group discussion – a short dialogue with different workers' groups on their perspectives in relation to the findings of the study.

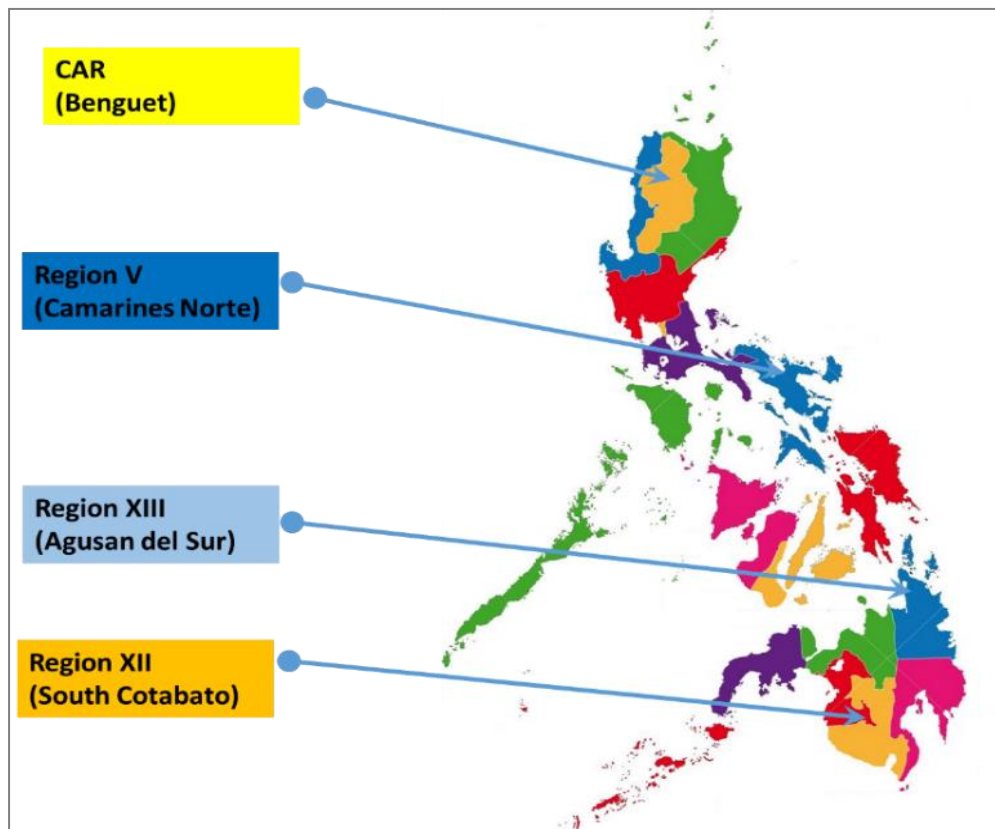
2.1 Study areas

The areas initially identified to be covered in the study are the declared People’s Small-scale Mining Areas or “Minahang Bayan”. However, due to a number of considerations made in the selection of research sites such as existing operations and safety concerns, the final list of the areas includes a mix of those within and outside “Minahang Bayan” (Figure 1). These are as follows:

- Benguet (two mine sites)
- Camarines Norte (two mine sites)
- Agusan del Sur (one mine site)
- South Cotabato (one mine site)

The fieldwork in the aforementioned areas was conducted from May to August 2017.

Figure 1. Areas covered in the study

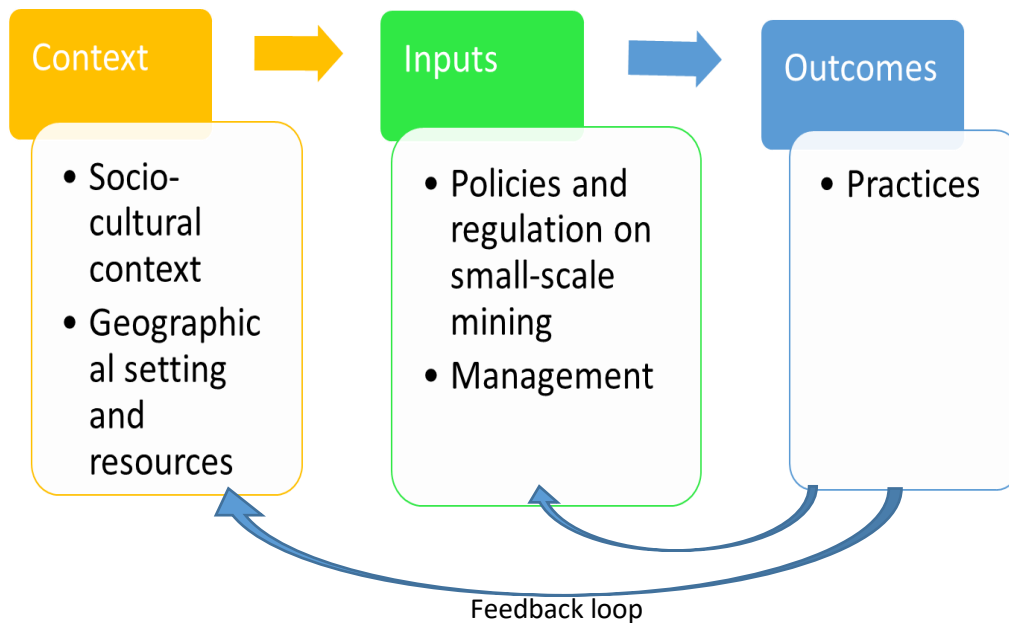


2.2 Conceptual framework

This study uses the context-inputs-outcomes framework where macro and local contexts (socio-cultural context and geographical setting) are recognized to influence the inputs (i.e. policies, process and regulations) and therefore, affecting the outcomes (practices). It is recognized in this study that a feedback loop exists indicating possible changes to the existing context and inputs brought about by outcomes. However, this study only focuses on looking at the existing policies

and regulatory practices and does not seek to cover the changes and effects created on inputs and context in return (Figure 2).

Figure 2. Conceptual framework



2.3 Scope and limitations

This study does not seek to audit or investigate the extent of compliance of the small-scale mining areas with the existing small-scale mining policies and safety rules and regulations in the country. With the limited number of observed mine sites in each of the areas covered, the result is not a representative of the whole of the region where each of the study area belongs. Moreover, it is also recognized that the discourse on occupational safety and health in mining covers a broad range of dimensions. While this research primarily covers safety practices in selected aspects of mine operations in general, the health component is not included in the discussion.

2.4 Ethical considerations

Prior to the conduct of fieldwork, a series of consultation was made with the Mines and Geosciences Bureau (MGB) of the Department of Environment and Natural Resources (DENR) and other concerned bureaus and attached agencies of the Department of Labor and Employment (DOLE). Moreover, coordination was made with the concerned offices and mining communities in the areas covered.

Ethical considerations were given attention in conducting this study. For one, respondents and informants involved were all aware of the researcher's presence in the area. Neither coercion nor deception was made in the involvement of the informants. Second, the purpose of the inquiry was conveyed to the informants through verbal communication. Third, keeping the informants' identities confidential is given utmost consideration especially in presenting the findings of the research to avoid potential harm, in any form, to the informants. Lastly, concerned offices and

participating small-scale mining groups were invited during the conduct of the stakeholders' validation where initial results of the study were presented.

3. CONTEXTUAL OVERVIEW

3.1 Small-scale mining in the Philippines

Small-scale mining plays a crucial role in poverty alleviation and rural development (Hentschel, et al. 2003). In the Philippines, small-scale mining has gained its significance especially with the closure of many large-scale companies in the 1990s (Jurado and Amurao, 2015). Under the People's Small-scale Mining Act or Republic Act (RA) 7076, small-scale mining refers to mining activities which rely heavily on manual labour using simple implements and methods and do not use explosives or heavy mining equipment. Small-scale mining in the Philippines is classified into surface, underground, and underwater nearshore.

The presence of small-scale gold mining in the country is seen to be present in many provinces from various regions in the country (Figure 3).

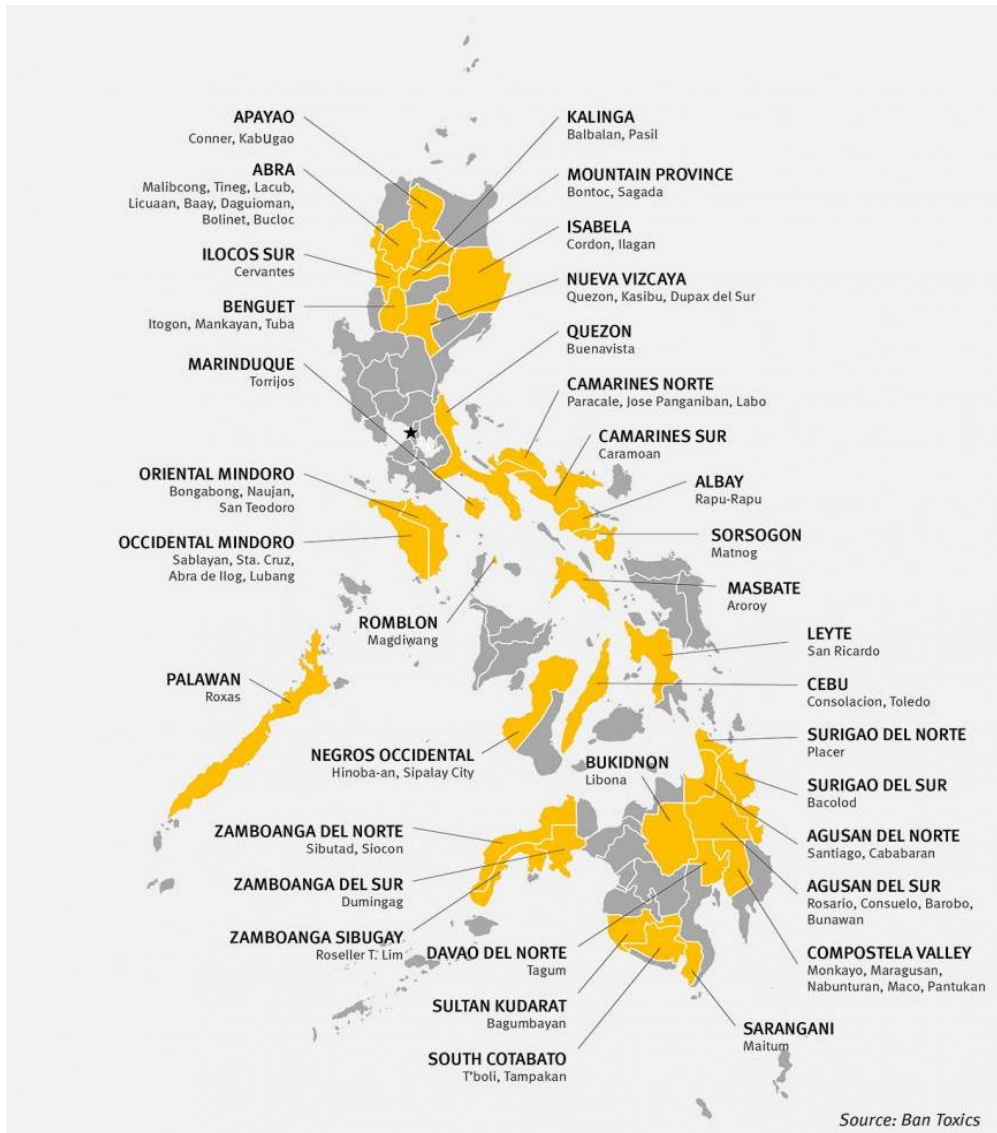
According to the data released by MGB, as of second quarter of 2017, the gross production value in small-scale gold mining accounts for Php 0.5 billion. This has been steadily decreasing since 2013 (Table 1). Moreover, mining contribution to total employment in the country is at 0.5 per cent based on the results of the January 2017 Labour Force Survey. Nonetheless, where a range of figures is given, it reflects an element of uncertainty because of the lack of data, the prevalence of 'illegal' mining in some areas, and the fact that small-scale mining is often carried out on a seasonal basis, leading to wide fluctuations in employment (ILO, 1999).

Table 1. Mineral industry statistics (September 2017)

Gross production value in mining	2013	2014	2015	2016	as of Q2 2017+
Small-scale gold mining (BSP)	1.1 Billion	1.0 Billion	0.8 Billion	0.7 Billion	0.5 Billion

Source: MGB-DENR, 2017.

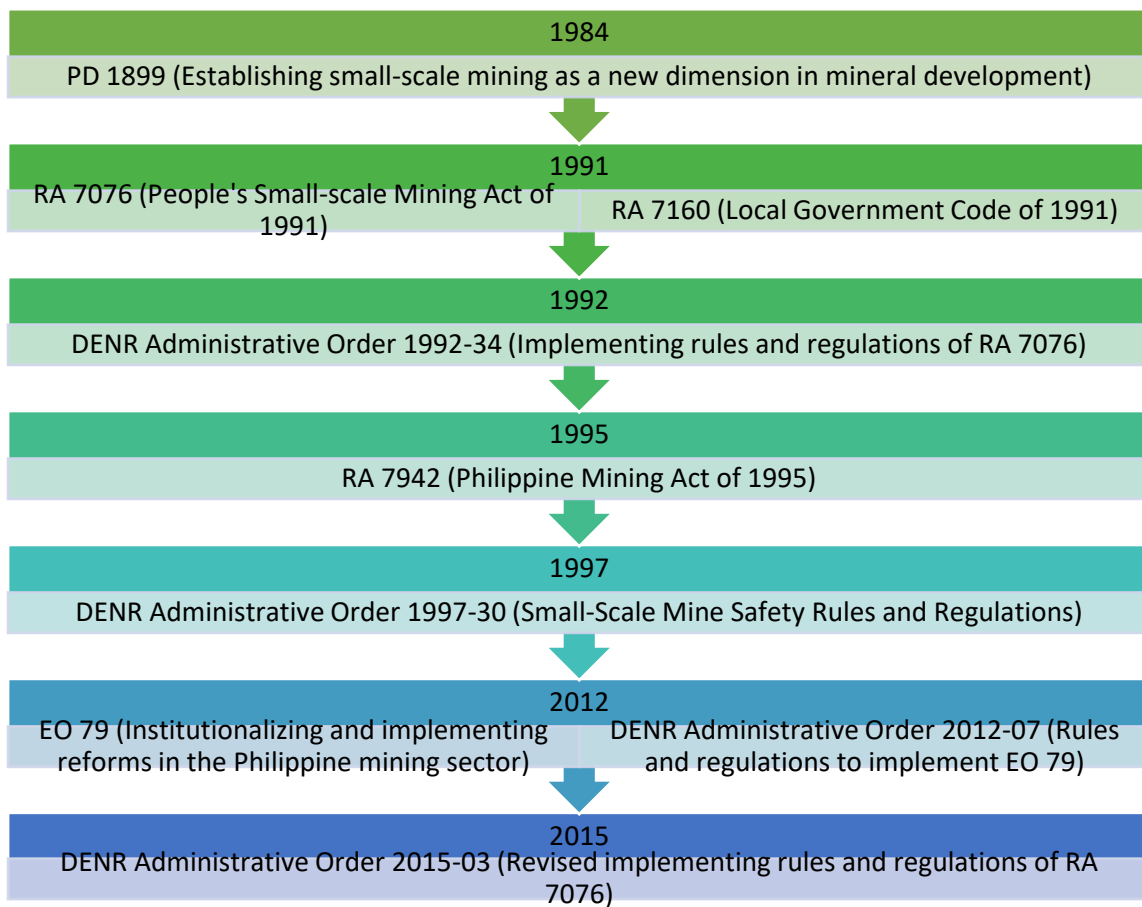
Figure 3. Location of small-scale gold mining in the Philippines



3.1.1 *Legal and regulatory framework*

Small-scale mining in the Philippines has been practiced even before the colonization period and has been called in different ways such as traditional mining or private mining. Consequently, small-scale mining legislation in the Philippines has long been framed considering the need for regulation of the sector and its acknowledgement as becoming a part of the formal economy. Section 2, Article XII of 1987 Philippine Constitution recognizes the small-scale utilization of resources by Filipino citizens and that small-scale mining shall be recognized as a formal sector of the industry. With this, regulations specific to small-scale mining regulations have been crafted through the years (Figure 4).

Figure 4. Philippine policies and regulations related to small-scale mining



Because of the existence of Presidential Decree (PD) 1899, small-scale miners were able to operate through permits issued. It states that: “The holders of mining rights meeting the conditions of the preceding section may apply at any time as small-scale mining permittee/licensee, provided they are holders of valid and existing mining rights, who have subsequently complied with existing mining laws, rules and regulations, before the promulgation of this Decree”.

In 1991, RA 7076 was created instituting the People’s Small-scale Mining Area or “Minahang Bayan” where small-scale miners can mine. Although under its implementing rules and regulations (IRR) or the DAO 1992-34, pertinent rules and regulations of PD No. 1899 shall apply on areas not declared as People's Small-Scale Mining area. With RA 7076, the Provincial/City Mining Regulatory Board (P/CMRB) was created and P/CMRB shall exercise major powers and functions the including the formulation of guidelines and implementing rules and regulations related to RA No. 7076 (Box 1).

Moreover, in the same year, RA 7160 (Local Government Code of 1991) was enacted which gave the local government units (LGUs) the power to endeavor to be self-reliant and shall continue exercising the powers and discharging the duties and functions currently vested upon them. For instance, for a province, such basic services and facilities include control and review of the DENR, enforcement of forestry laws limited to community-based forestry projects, pollution control law, small-scale mining law, and other laws on the protection of the environment; and mini-hydroelectric projects for local purposes pursuant to national policies and subject to supervision.

Box 1. Powers, functions and composition of provincial/city mining regulatory board

Major Powers and Functions of the Provincial/City Mining Regulatory Board

The Board created under RA No. 7076 shall exercise the following major powers and functions, subject to review by the Secretary:

- a. Declare “Minahang Bayan”;
- b. Reserves for the future, mineralized areas/mineral lands for declaration as “Minahang Bayan”;
- c. Award small-scale mining contracts to small-scale miners organized as individual miner or cooperative of small-scale miners;
- d. Formulate its own guidelines and implements rules and regulations related to RA No. 7076;
- e. Settle disputes, conflicts or litigations over conflicting claims;
- f. Submit to the Department and the Bureau a comprehensive Annual Report of the overall operation of the “Minahang Bayan”; and
- g. Perform such other functions as may be necessary to achieve the goals and objectives of RA No. 7076.

Composition of the Provincial/City Mining Regulatory Board

The Board shall be composed of the following:

- a. Regional Director concerned or his/her duly authorized representative as Chairperson;
- b. Provincial Governor or City Mayor or his/her representative as Member;
- c. One small-scale mining representative as Member;
- d. One large-scale mining representative as Member; and
- e. One representative from an environmental non-government organization as Member.

However, with the implementation of Executive Order (EO) 79 in 2012, operations of small-scale mining, pursuant to RA 7076, shall be undertaken only within the declared People’s Small-Scale Mining Areas or “Minahang Bayan”. Hence, under the DAO 2015-03, “Small-scale miners who have been in actual operation of mineral lands on or before August 1, 1987 as determined by the Board shall not be dispossessed, ejected or removed from said areas: provided, that said areas are declared as “Minahang Bayan” and the small-scale miners shall secure a small-scale mining contract, subject to compliance with the pertinent requirements, and that they shall comply with other applicable provisions of RA No. 7076 and the said EO. Also, small-scale mining under Small-Scale Mining Permits (SSMP) issued under PD No. 1899 shall be recognized until their expiration unless the same are earlier revoked, cancelled or terminated with cause: provided, that the affected small-scale miners operating under SSMPs involving gold, silver and chromite and non-metallic minerals may have the option to continue small-scale mining through a small-scale mining contract issued pursuant to the provisions of RA No. 7076”. However, as of February 2017, there are only five declared “Minahang Bayan” (Table 2).

Table 2. List of declared “minahang bayan”

Minahang bayan	Address	Commodity
Manlana Small-Scale Miners Assn.	Manlana, Buenavista, Quezon	Gold
Masabong Village Small-Scale Mining Association	Masabong, Bayugan III, Rosario, Agusan del Sur	Gold
Tubajon Peoples Small-Scale Mining Area	Provincial Capitol Building San Jose, Dinagat Island	Chromite
Waso and Binalay Small-Scale Mining Producers Association	Waso, Llorente, Eastern Samar	Chromite
Development Community Mining Livelihood Cooperative	Barangay Maputi, Banaybanay, Davao Oriental	Chromite

Source: MGB-DENR Central Office (as of February 2017).

With respect to compliance of safety and health standard, the Occupational Safety and Health Standards (OSHS) Law has recently been enacted in 2018 that seeks to further promote protection of workers against injury, sickness and death in workplaces. The law applies to all places where work is being undertaken in all branches of economic activity, except for public sector. Hence, this is another important milestone to further emphasize the need for implementing effective OSH control measures in the mining sector.

3.1.2 *International labour standards*

The ILO² has set and adopted various international labor standards that particularly deal with occupational safety and health. ILO Conventions are legally binding international treaties drawn up by representatives of governments, employers and workers and are adopted at the ILO's annual International Labour Conference. Once ratified, ratifying countries commit themselves to applying the convention in national law and practice and reporting on its application at regular intervals. The following are ILO Conventions concerning occupational safety and health (OSH):

Occupational Safety and Health Convention, 1981 (No. 155)

The convention provides for the adoption of a coherent national occupational safety and health policy, as well as action to be taken by governments and within enterprises to promote occupational safety and health and to improve working conditions.

Occupational Health Services Convention, 1985 (No. 161)

This convention provides for the establishment of enterprise-level occupational health services which are entrusted with essentially preventive functions and which are responsible for advising the employer, the workers and their representatives in the enterprise on maintaining a safe and healthy working environment.

²The International Labour Organization is the only tripartite U.N. agency. Since 1919, the ILO brings together governments, employers and workers of member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men.

Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)

This Convention aims at promoting a preventative safety and health culture and progressively achieving a safe and healthy working environment. It requires ratifying States to develop, in consultation with the most representative organizations of employers and workers, a national policy, national system, and national programme on occupational safety and health.

ILO Conventions on the protection against specific risks

Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148)

The convention provides that, as far as possible, the working environment shall be kept free from any hazards due to air pollution, noise or vibration. To achieve this, technical measures shall be applied to enterprises or processes, and where this is not possible, supplementary measures regarding the organization of work shall be taken instead.

Asbestos Convention, 1986 (No. 162)

Aims at preventing the harmful effects of exposure to asbestos on the health of workers by indicating reasonable and practicable methods and techniques of reducing occupational exposure to asbestos to a minimum. With a view to achieving this objective, the convention enumerates various detailed measures, which are based essentially on the prevention and control of health hazards due to occupational exposure to asbestos, and the protection of workers against these hazards.

Chemicals Convention, 1990 (No. 170)

The Convention provides for the adoption and implementation of a coherent policy on safety in the use of chemicals at work, which includes the production, the handling, the storage, and the transport of chemicals as well as the disposal and treatment of waste chemicals, the release of chemicals resulting from work activities, and the maintenance, repair and cleaning of equipment and containers of chemicals. In addition, it allocates specific responsibilities to suppliers and exporting states.

ILO Convention on Health and safety in Mining
Safety and Health in Mines Convention, 1995 (No. 176)

This instrument regulates the various aspects of safety and health characteristic for work in mines, including inspection, special working devices, and special protective equipment of workers. It also prescribes requirements relating to mine rescue.

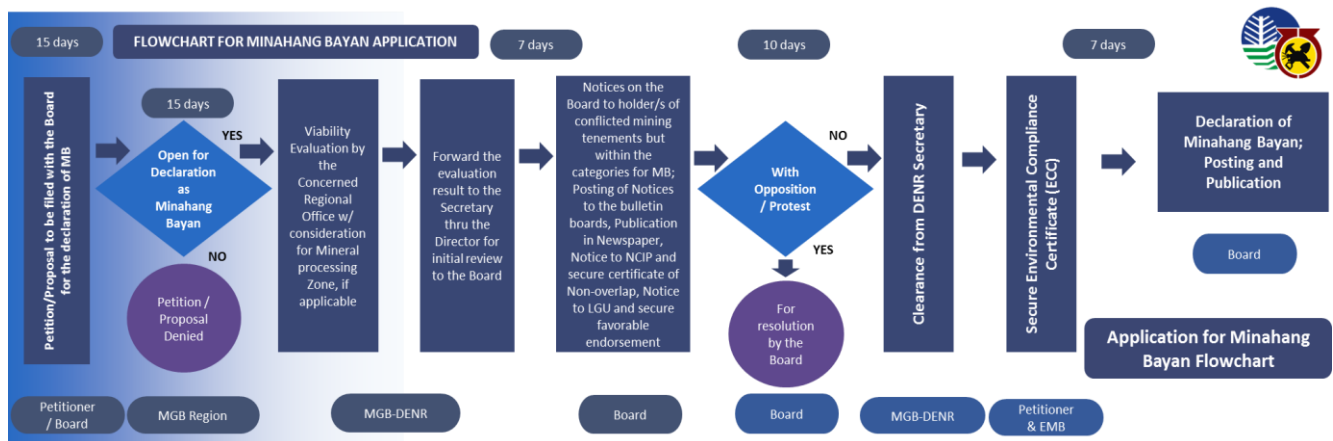
The Philippines has ratified C176 in 1998. Moreover, other relevant ILO conventions on mining which the Philippines has ratified include ILO Convention No. 138 (Minimum Age for Admission to Employment and Work) and ILO Convention No. 182 (Worst Forms of Child Labour).

In relation to the country's ratification of C176, the observations of the Committee of Experts on the Application of Conventions and Recommendations (CEACR), adopted in 2016 and published during the 106th International Labour Conference (ILC), notes the discussion in the Committee on the Application of Standards (CAS) and its conclusions concerning the following questions: (a) plans of workings; (b) safe design and construction of mines; (c) recording of the probable location of the workers in mines; (d) two or more employers undertaking activities at the same mine; (e) the right of workers and their representatives to report accidents, dangerous occurrences and hazards to the employer and to the competent authority; (f) the increase in work accidents; (g) stiffer penalties and criminalization of the violation of OSH standards; and (h) the capacity and involvement of the social partners, particularly trade union representatives, in ensuring compliance with OSH standards in mining (ILO, 2017).

3.1.3 Issues in small-scale mining

(a) Regulation and legalization. Regulation of small-scale miners has been a challenge over the years. This concern even become more complicated with the issuance of E0 79 where small-scale mining operations should only exist within a declared "Minahang Bayan". In a study conducted by Llaguno et al. (2016), many of the concerns raised in focus group discussions (FGDs) and workshops pertain to problems on legalization and regulation in small-scale mining stemming from the lengthy, resource-intensive, and sometimes politicized permitting/licensing application process (Figure 5). This is also true in the case of the declaration of "Minahang Bayan". With only five recognized "Minahang Bayan" in the Philippines, many of those previously issued with permits based on PD 1899 are now in need to process application to continue operating legally.

Figure 5. "Minahang bayan" application process



Source: MGB-Mining Technology Division.

(b) Women in small-scale mining. Understanding opportunities and constraints to women and men in countries where small-scale mining are conducted remains to be a challenge. Women in small-scale mining communities are diverse and their characteristics change over the course of time. In some areas, women are said to be doing underground mining activities, but for some they are seen as bad luck in the tunnels.

Hinton, et al. (2003) explain that in many countries throughout the world where artisanal and small-scale mining are undertaken, women are typically labourers (e.g. panners or ore processors), providers of goods and services, and are often solely responsible for domestic chores. Nonetheless, women's responsibilities in mineral processing activities also range from crushing, grinding, washing and panning, to amalgamation and amalgam decomposition in the case of gold

mining. Women are often involved in processing and waste disposal, exposing them to harmful substances, with severe consequences for family well-being and health. Women's 'economic' activities are an addition to their domestic responsibilities, and thus double-day burden.

(c) Child labour. With ILO Convention 182, elimination of worst forms of child labour including those in mining, is one of the issues being monitored and addressed. Child labour in artisanal and small-scale mining is noted by ILO as one of the worst forms of child labour because of widespread and severe hazards and risks that may lead to injury, diseases, and even death. Children undertake arduous activities such as heavy lifting, digging, ore haulage and transport and even underground mining at an early age and therefore, exposing them to extreme danger and harm in their health.

(d) Environmental impacts and economic issues. Environmental impacts include erosion and deforestation, biodiversity loss and water pollution from tailings, river damage, etc. which are detrimental to the ecosystem, including the surrounding communities. Moreover, Llaguno et al. (2016) argue that the lack of effective enforcement of the laws on small-scale mining, for reasons valid or not, lends a no-win situation for all the stakeholders. The government has been contending with increased degradation of the environment, social backlash regarding deadly mining incidents due to unsafe mining procedures, and revenue loss. This revenue loss is not just because of uncollected taxes from the small-scale miners but also because of unaccounted transactions between small-scale miners and their customers, some of whom are foreigners.

(e) Safety and health in small-scale mining and surrounding communities. One of the most popular issues in mining is non-compliance with occupational health and safety standards. Various studies have been conducted highlighting the safety and health matters of women and men engaged in small-scale mining activities, their families, and their communities (see for example Lu, 2014; Leung and Lu, 2016; Smith, 2016; Mendoza, 2015). List of various diseases and injuries, hazards, and chemicals have been noted to small-scale miners (and artisanal miners), as well as their communities (Table 3).

Specific to small-scale mine safety, the DENR DAO 1997-30 provides rules and regulations as measures to ensuring in small-scale mining. Some of the requirements include are stated in Table 4.

Data on accidents, dangerous occurrences, and hazards in small-scale mining are not definite. For one, this is because of the informality that exists in the operations in many small-scale mining operations. Incidents of unsafe working conditions that lead to accidents and even casualties were reported in news through time prompting calls for greater attention and strengthened response on implementation.

Table 3. List of risks to artisanal and small-scale miners and their communities

Source: Smith et al., 2016.

Diseases and injuries	Hazards and exposures	Chemicals
<ul style="list-style-type: none"> ▪ Ergonomic stresses ▪ Musculoskeletal disorders and diseases (arthritis) ▪ Respiratory diseases ▪ Noise and hearing loss ▪ Parasitic infections (malaria) ▪ Blood borne infectious diseases ▪ Cancer (occupational) ▪ Neurotoxicity ▪ Airborne infectious diseases (TB) ▪ Dengue fever ▪ Diseases of blood and skin ▪ Traumatic injury ▪ Water/soil/food contamination related diseases (cholera, typhoid) ▪ Enteric (intestinal) infections ▪ Lifestyle factors (smoking related diseases, inadequate nutrition, alcohol and drugs, STDs, HIV/AIDS) ▪ Genital corrosions and miscarriages (from prolonged standing in water) ▪ Skeletal fractures ▪ Cardiovascular diseases ▪ Mental impairments; psychological effects 	<ul style="list-style-type: none"> ▪ Landslides ▪ Decompression sickness (from diving) ▪ Airborne pollutants (equipment exhaust, dust) ▪ Heat and cold stress ▪ Poor air quality/ventilation ▪ Blasting/explosives ▪ Rock falls ▪ Flooding ▪ Stumbling, slipping, and falling ▪ Unstable underground structures ▪ Obsolete, inappropriate or damaged equipment ▪ Poor visibility and light ▪ Poorly built tunnels ▪ Lack of exits ▪ Gender-based violence and abuse ▪ Dense living arrangement ▪ Remoteness of work ▪ Poor sanitation ▪ Water, soil, and food contamination ▪ Improper use of chemicals ▪ Social conflicts 	<ul style="list-style-type: none"> ▪ Mercury, cyanide, zinc (used in gold processing) ▪ Arsenic, chromium, radon, aluminum, copper, manganese, cadmium, selenium, methane (naturally occurring) ▪ Nickel, cobalt (mined and naturally occurring) ▪ Lead (emitted during processing and naturally occurring) ▪ Uranium (mined)

**Table 4. Requirements in DENR DAO 1997-30
(Small-scale mine safety rules and regulations)**

DAO 1997-30	Requirement
Chapter III	<p>Rule 1 – A record shall be kept by the permittee/contractor/operator of all Non-Lost Time and Lost Time Accidents occurring at any mining property in a form prescribed by the Board or its equivalent.</p> <p>Rule 4 – Monthly report of accident or sickness on Safety form shall be submitted to the Board or its equivalent, copy furnished the Regional Office concerned and the Department of Labor and Employment, within the first twenty (20) days of the subsequent month.</p> <p>Rule 5 – Monthly statistical data on accident shall be accomplished and submitted to the Board or its equivalent copy furnished the Regional Office concerned and the Department of Labor and Employment, within the first twenty (20) days of the subsequent month in Safety Form.</p>
Chapter III, Sec. 2. Safety Organization	<p>Rule 7 – For Surface Mines, a Safety Inspector shall be required for every fifty (50) workers/miners or less.</p> <p>Rule 8 – For Underground Mines, a Safety Inspector shall be required for every twenty-five (25) workers/miners or at least one (1) Safety Inspector for every opening with less than twenty-five (25) workers/miners.</p>
Chapter III, Sec. 4. Duties and Responsibilities of Safety Inspector	<p>Rule 13 – The safety inspector shall:</p> <ol style="list-style-type: none"> 1. Conduct a daily routinary inspection of the mine and its premises. 2. Make a daily report of inspection and inform the permittee, contractor and operator concerned the places inspected as to ventilation, sanitation, unsafe acts/conditions and working procedures. 3. Receive oral or written reports of workers/miners about unsafe and unhealthy conditions in the mine area and recommend remedial/mitigating measures to the permittee/operator/contractor/association and supervise its implementation. 4. Instruct/train workers/miners on accident prevention, first aid and sanitation and emergency disaster evacuation procedures. 5. Recommend suspension of mining operation to the permittee/operator/contractor/association when imminent danger so requires. 6. Investigate and report all mine accidents and promulgate ways and means of preventing their recurrence. 7. Keep a record of all accidents and safety inspection reports. 8. Maintain a logbook which shall be placed on the collar/portal anytime of the day of all workers/miners working underground.
Chapter III, Sec. 5. Duties and Responsibilities of Permittee/ Operator/ Contractor/ Association	<p>Rule 14 – The permittee/operator/contractor/association shall:</p> <ol style="list-style-type: none"> 1. Take every reasonable precaution necessary to ensure the safety and health of the workers/miners while on duty; 2. Adopt all necessary facilities for a safe, sanitary and healthful working conditions. 3. Make available safety paraphernalia in accordance with the type of work performed. 4. Comply with the existing labour, SSS health rules and regulations. 5. Maintain a fully equipped first aid station or stations at strategic points in the mine.

	<p>6. Provide for the training of persons in first aid, firefighting, mine rescue and recovery operations and other safety measures.</p> <p>7. Provide a pool of rescuers to attend to emergency cases in the area.</p> <p>8. Submit to the duly accredited Association, if any, written reports of unsafe working conditions.</p> <p>9. Adopt and enforce a set of safety rules and regulations applicable to each area and possibly with translation in the dialect understandable to the workers of the mine. A copy shall be distributed to every worker/miner including the Board or its equivalent or the Association concerned.</p> <p>10. Conduct at least one (1) day period for orientation of newly hired workers/miners which shall be in the form of lecture and/or actual observation of the safety rules and regulations and working place where they will be assigned.</p> <p>11. Plan and arrange all processes of operation with careful attention to safety.</p> <p>12. Maintain a system of inspection to detect all hazards of operations and report or inform all concerned of any safety and health hazards that may affect or endanger the latter's job and operation.</p> <p>13. Organize a safety and health committee.</p> <p>14. Maintain a continuous and regular safety and health meetings for all workers/miners.</p> <p>15. Submits to the Board or safety organization a monthly report of safety and health meetings.</p> <p>16. Provide medical and physical examination of its workers/miners at least once a year.</p>
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4. FINDINGS

The following sections provide discussions in the findings of the study based on the data gathered. The first part comprises the profile of the participants in the survey conducted. The second up to the fifth sections present the results on each of the areas covered and the last part is consisted of the general findings.

4.1 Profile of respondents

A total of 36 respondents were surveyed in all four areas, of which 33 are males and three are females. As to the age, most of the respondents belong to 25-34 age group (Figure 6) and the average age is 40 years old. In terms of highest educational attainment, majority are high school graduates but there were four college graduate respondents (Figure 7). The number of years working in mines is 10.5 years. It should be noted that among the 36 respondents, there were nine of them who started working in mining related activities below 18 years old (Table 5). Table 6 shows that the highest educational attainment of respondents surveyed vis-à-vis their number of years working in the mining operations.

Figure 6. Age group where respondents belong

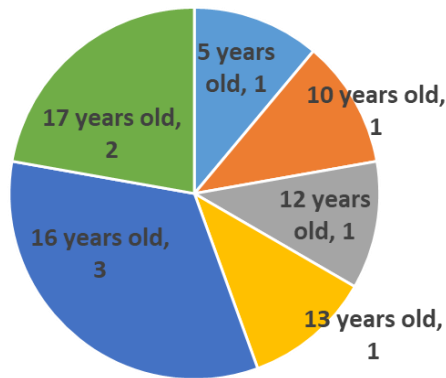


Figure 7. Highest educational attainment of respondents

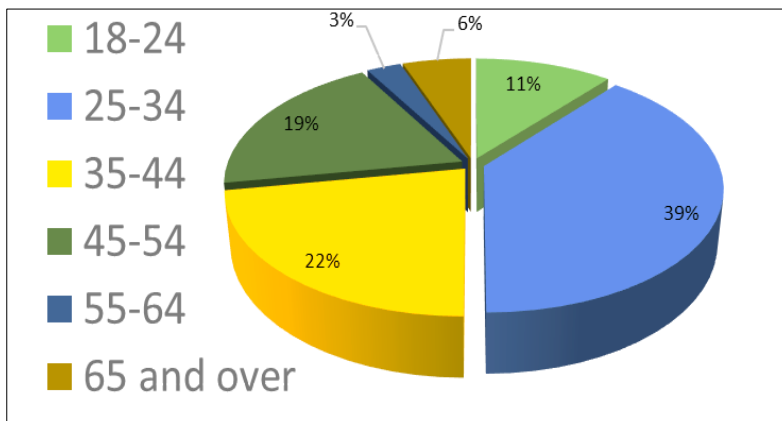


Table 5. Number of respondents who worked in mines below 18 years old

Age	Number of respondents
17	2
16	3
13	1
12	1
10	1
5	1

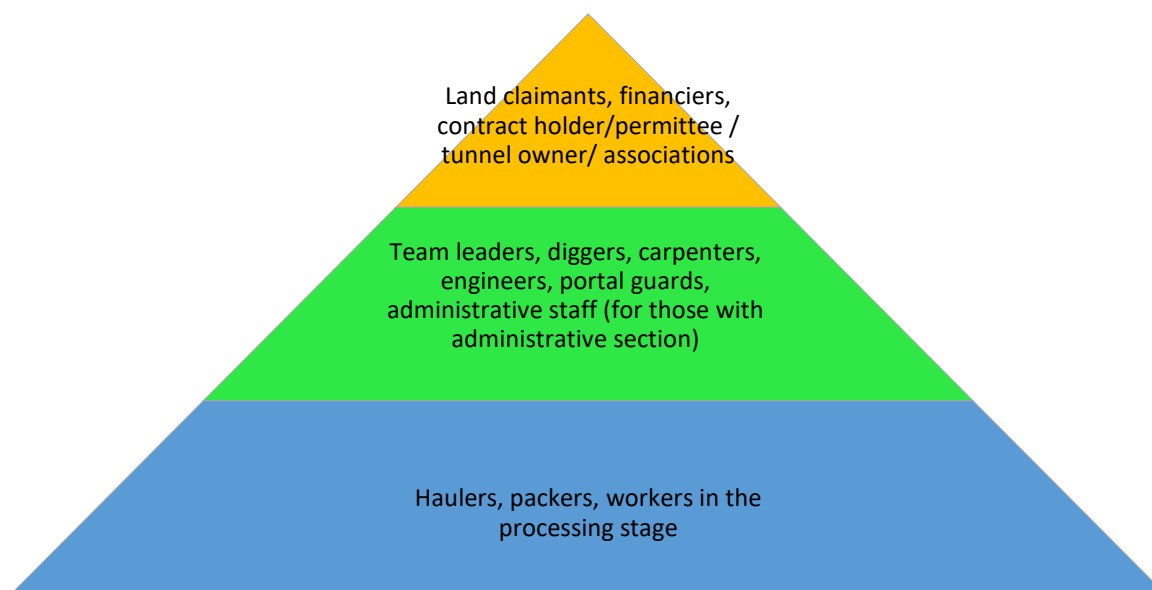
Mining operation is complex. More so with small-scale mining where informal work arrangements exist. Based on the sites covered, different players are also involved in the operations. The actual diggers are usually headed by a team leader or supervisor. Bigger tunnels also employ

consultants, engineers, portal guards. Workers in hauling, packing and processing may be different from those working in the extraction process. Given that the situation varies per mine site, some have overlapping work in the extraction and processing stages. In terms of payment scheme, there is an observable sharing pattern or scheme where the financier will often have a higher percentage of share and in control of processing facilities. Financiers usually provide food for the workers and their families, cash advances, or weekly stipends which are deducted from the worker's share. In some areas, they also provide a temporary shelter for workers to stay while on mine site. Shares are also given to land claimants, contract holder, tunnel owner and associations that result to reduced share of mine workers (Figure 8).

Table 6. Respondents' highest educational attainment vis-à-vis number of years working in mining operations

Highest Educational Attainment	Number of years working in mines																Total
	Less than a year	2	3	4	5	6	7	8	10	14	15	20	21	22	29	47	
College Graduate			1			2		1									4
College Undergraduate					1						1						3
High School Graduate	2	1		1	1	2	1		2	2	1			1			14
High School Undergraduate			1		1								1				3
Elementary Graduate			1			1			1			1					4
Elementary Undergraduate		1								2					1		4
Vocational									1								1
Not applicable									2		1						3
Total	1	2	2	1	2	5	1	1	5	4	3	1	1	1	1	1	36

Figure 8. Labour structure in small-scale mining (based on the combined observations in the areas covered)

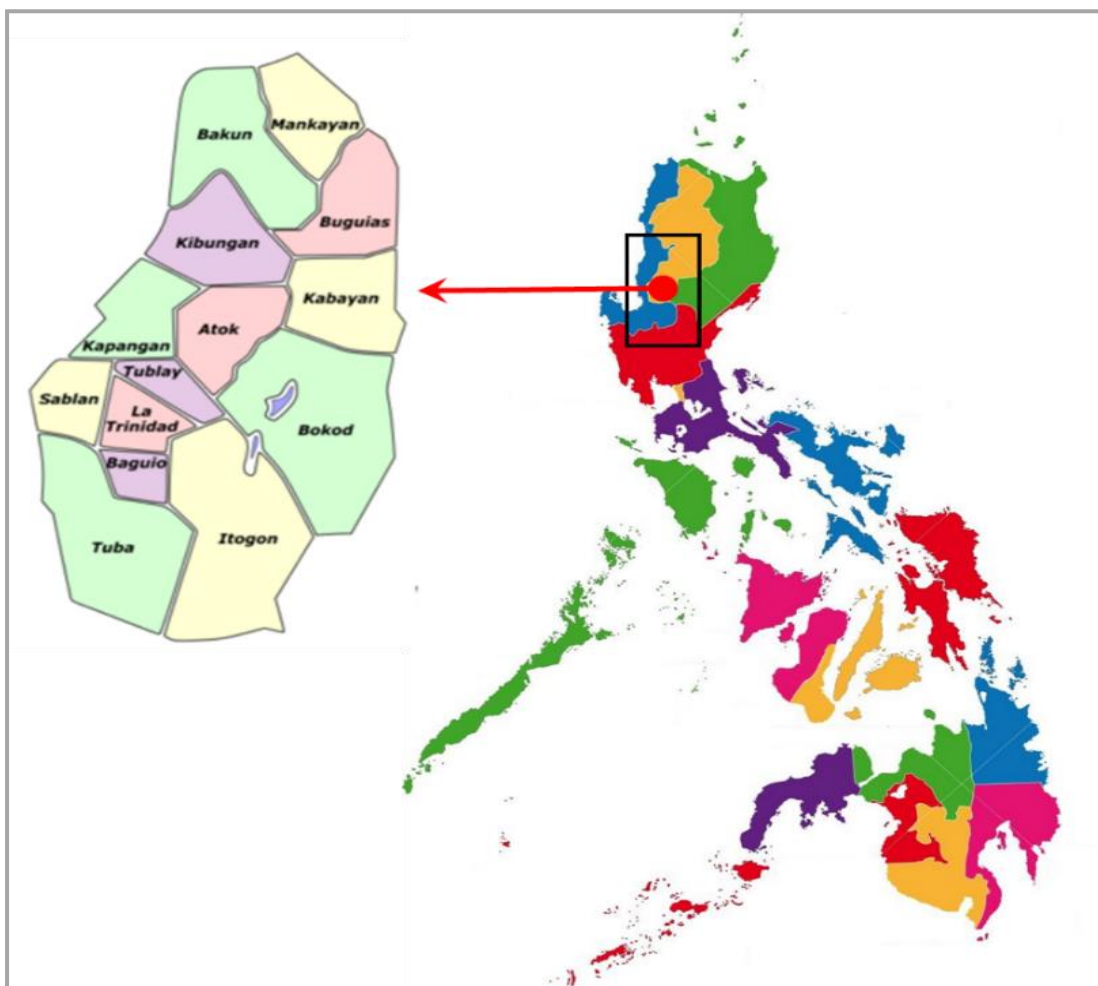


4.1.1 Case 1: Cordillera Administrative Region (Province of Benguet)

Benguet is a landlocked province within the only landlocked region of the Philippines. It is bounded by Mountain Province on the north, on the south by Pangasinan, on the east by Ifugao

and Nueva Vizcaya and on the west by La Union and Ilocos Sur. It has a mountainous terrain of peaks, ridges and canyons; and a temperate and generally pleasant climate. Benguet province comprises 13 municipalities and 140 barangays. It has three major ethnolinguistic groups: the Kankana-eyes, Ibalois and Kalanguya and other minor groups with distinct cultures and histories of their own³ (Figure 9).

Figure 9. Map of Benguet



As of 2015 Census, Benguet (excluding Baguio City) has a total population of 446,000⁴. There are a total of 206,713 gainful workers 15 years old and over of which 131,455 are males and 75,258 are females (Table 7).

³<http://www.benguet.gov.ph/index.php/profile/history>

⁴<https://psa.gov.ph/content/population-cordillera-administrative-region-based-2015-census-population>.

Table 7. Gainful workers 15 years old and over by major occupation group in Benguet (2015)

Major occupation group	Male	Female	Both sexes
Managers	6,119	9,701	15,820
Professionals	4,788	10,267	15,055
Technicians and associate professionals	3,149	2,862	6,011
Clerical support workers	1,897	3,602	5,499
Service and sales workers	9,734	11,646	21,380
Skilled agricultural forestry and fishery workers	43,324	8,211	51,535
Craft and related trades workers	9,084	1,350	10,434
Plant and machine operators and assemblers	28,242	853	29,095
Elementary occupations	24,885	26,646	51,531
Armed forces occupations	121	9	130
Other occupation not elsewhere classified	-	-	0
Not reported	112	111	223
Total	131,455	75,258	206,713

Source: Philippine Statistics Authority, 2017.

Benguet’s rich natural resources – water, mineral deposits, lands, mountains and forests – are harnessed for economic development. The region is rich in natural resources and has abundant mineral reserves. Gold, copper, silver, and zinc are among the metallic ores that can be found in the region. Non-metallic reserves include sand, gravel, and sulfur. Although mineral reserves are found all over the region, mining is concentrated in Benguet⁵.

During the data-gathering, two underground mines located in two separate towns in Benguet were covered and observed. No “Minahang Bayan” has been declared in the whole of the province but applications have been existing since the early 2000s. Small-scale mining is a major livelihood in the province and a federation of small-scale miners has long been established whose president is also the representative of small-scale miners in the PMRB.

The following working conditions and safety practices are noted in the mining communities covered in Benguet:

(a) Working conditions. Areas 1 and 2 both have horizontal entrance to the underground tunnel. But unlike Area 1, entrance to Area 2 is not wide enough for a person to get in without bending. The entrance to the tunnel in Area 1 is much larger as it was said to be formerly operated by a large-scale company, but is now operating as small-scale miners when permit was given to the small-scale mining association in this area. Moreover, both areas also have areas for processing ores near the mine site. The only difference is that the processing of ores in Area 1 is near the mine site, for Area 2 is a bit farther but still within the town where residential houses are also found.

Safety risks identified by workers in Area 1 include falling of rocks or debris and exposure to chemicals. For Area 2, safety risks include unstable timber, suffocation, exposure to chemicals and dust, and drowning in cases when water enters the tunnel during the rainy season. In terms of facilities, it was observed that Area 1 has an office near the processing area with a toilet, a separate dining area with cooking equipment for workers, and sleeping quarters for miners especially for

⁵<http://www.dti.gov.ph/regions/car/car-profile-of-region>

those coming from other provinces. On the other hand, the facilities in Area 2 are more of makeshifts. Some bring their food and water with them and eat just near the tunnels while other can go back to their houses since it is near to the mine site.

In terms of working schedule, it is common that they work from Monday to Saturday. For Area 1 wherein workers are hired by the association, their work is usually from 8 a.m. until 5 p.m. Payment is usually given twice a month depending on the number of working days and additional bonus if there is good production. But for those operations being opened to “contractors,” the working time of workers are indefinite as they choose they choose their working schedule depending on their target production and the workers’ payment is through sharing scheme. For Area 2, working hours vary from 7 a.m. until 1 p.m., 7 a.m. until 3 p.m., 8 a.m. until 3 p.m., 9 a.m. until 3 p.m., depending on the arrangement of the team in each of the portal/tunnel.

Women workers are assigned as administrative staff or as watcher in the milling process to ensure gold processing is in order in Area 1. For Area 2, it was stated that no women are participating in the mining activities. All respondents except for one in Area 2 said that they can offer suggestions and initiatives on how to improve safety in their workplace. In terms of being able to join in making action plans with regard to safety measures to be undertaken, all said yes except for the lone female respondent.

(b) Safety measures and practices. Workers assigned in Area 1 are proud to say that they usually get a place in the competition relating to safety and rescue operations among small-scale miners during Mining Convention Week in Benguet. According to the respondents, they have a nurse and first aid responders in the mine site. Three out of five respondents have acquired first aid training and mine rescue and recovery operations. All workers deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows workers to move around easily and carry out their work. In terms of the use and availability of safety gadgets, hard hats, light, boots, gloves, goggles are said to be provided by the financier but once broken or worn out, will be replaced by the worker. However, as to the use of these gadgets while at work, they noted that there are times that use of personal protection equipment (PPE) gives discomfort in the conduct of their work. Inspection is conducted by area supervisors and meetings are conducted monthly by the association with the presence of the Board. Recording system of workers underground is through daily timekeeping record. Improvised communication system through signals by means of whistles are used in the area. In terms of electrical and safety rules, Area 1 has safety boxes, safety breakers and control site in the mine site. A designated electrician and safety engineer is also said to be available. In times of emergency, the president of the association said that large-scale company may be tapped to lend rescue equipment.

For Area 2, safety team is also composed of mine workers themselves. Out of seven respondents, four said that they have acquired first aid training, three with firefighting training, and three with mine rescue and recovery operations training. All workers also deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows works to move about easily and carry out their work. However, it can be observed from the entrance of the tunnel that because of the small-opening, exposure to dust, lack of fresh air, and possible falling of debris present hazards to workers. Hard hats and lights are noted to be available in the worksites. Although an informant said that sometimes, workers are just wearing undergarments when already inside the tunnel due to extreme heat. Team leaders conduct inspection in Area 2 and meeting is conducted once a month. Their recording system of workers underground is through payroll checker. As to the communication system, they use hose pipe to convey messages. In case of emergencies, the president of the association said that they may tap workers from other associations or other tunnels to provide rescue. In addition, it was noted that the federation of small-scale miners in the province can also provide rescuers when there are workers that need to be rescued. As per inquiry with the local government in Area 2, the Municipal Disaster Risk Reduction and Management Council (MDRRMC) Office may also provide recovery operations equipment.

Table 8 shows a summary of survey and interview results on the working conditions in the two mining areas included in the study while Table 9 presents the survey and interview results on the mine safety practices.

Table 8. Survey and interview results: Working conditions in selected small-scale mining areas in Benguet

	Area 1-Benguet underground mining	Area 2-Benguet underground mining
Physical environment and facilities	a) Mine site observed: <ul style="list-style-type: none"> • Horizontal entrance high enough for a person to enter without bending • Formerly operated by a large-scale company, after which small-scale mining association applied for permit to operate • Processing of ores is located just within the mine site. b) Safety risks: <ul style="list-style-type: none"> • Falling of rocks/debris • Exposure to chemicals c) Facilities available: drinking water, toilet, hand washing, dining facilities, personal storage, change room.	a) Mine site observed: <ul style="list-style-type: none"> • Horizontal entrance not as high for a person to enter without bending • Blower is available at the entrance of the tunnel; if turned on, this indicates that miners are inside the tunnel • Processing of ores are located near the mine site b) Safety risks: <ul style="list-style-type: none"> • Unstable timber • Suffocation • Exposure to chemicals and dust • Increase in the level of water that enters the tunnel during rainy season c) Facilities available: drinking water, hand washing, dining facilities, personal storage.
Psychosocial concerns	None mentioned	None mentioned
Working time	<ul style="list-style-type: none"> • Usually from Monday to Saturday. • Working time: 	<ul style="list-style-type: none"> • Usually from Monday to Saturday.

	<ul style="list-style-type: none"> i. For those under the association: usually 8 a.m. until 5 p.m. ii. For those under sharing scheme, no definite working time (workers can choose when to work). 	<ul style="list-style-type: none"> • Working time varies: 7 a.m. until 1 p.m., 7 a.m. until 3 p.m., 8 a.m. until 3 p.m., 9 a.m. until 3 p.m.
Remuneration	<ul style="list-style-type: none"> • Payment is usually given twice a month depending on the number of working days. • For those under sharing scheme, payment is given after production. 	<ul style="list-style-type: none"> • Wage depends on the number of days worked and the schedule of payment depends on the agreed schedule to process the production.
Ways of participation	<ul style="list-style-type: none"> • Women work as part of staff in the administrative section or as a watcher in milling to ensure gold processing is in order. • Workers claim that they are being followed-up on suggestions and initiatives to improve safety in workplace. • Workers are said to be able to join in making action plans with regard to safety measures to be undertaken except for the one (the only female respondent). • All workers said that they are free to voice their concerns about workplace health and safety in your workplace. 	<ul style="list-style-type: none"> • No women worker. • One out of seven workers claim that they are not being followed-up on suggestions and initiatives to improve safety in workplace. • Workers are said to be able to join in making action plans regarding safety measures to be undertaken. • All workers said that they are free to voice their concerns about workplace health and safety in your workplace.

(c) Challenges observed and other issues raised:

- Tedious and resource-intensive requirements for the application of “Minahang Bayan”.
- The local government find it challenging to regulate because it is the source of livelihood of people and therefore, they would always go back even if they are stopped.
- Accidents and fatalities are not reported and are usually made known by concerned offices through news covered by media.
- Uncertainties whether EO 79 brings back the responsibility of regulating small-scale mining to national government or devolution to the local government stands.
- Workers’ attitude of not being afraid of the risks in working underground even without protective equipment.
- In both areas, compliance to health and social security rules are not observed.

Table 9. Survey and interview results: Safety measures and practices in selected small-scale mining areas in Benguet

Policy/ Regulation	Requirement	Practice	
		Area 1-Benguet underground Mining	Area 2-Benguet underground mining
DENR DAO 1997-30 Ch.III, Sec. 2, Rule 10	Safety Organization	<ul style="list-style-type: none"> • Presence of nurse and first aid responders. 	<ul style="list-style-type: none"> • Presence of safety team in the organization that is also composed of the mine workers.
DENR DAO 1997-30 Ch.III, Sec. 5, Rules 6 and 7	Provision of training and pool of rescuers	<ul style="list-style-type: none"> • Trainings acquired: first aid (three out of five respondents); mine rescue and recovery operations (three out of five respondents). 	<ul style="list-style-type: none"> • Trainings acquired: first aid (four out of seven respondents), firefighting (three out of seven respondents); mine rescue and recovery operations (three out of seven respondents).
DENR DAO 1997-30 Ch.VI, Sec. 1-5,	Heath and Sanitation	<ul style="list-style-type: none"> • All workers deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows works to move about easily and carry out their work. 	<ul style="list-style-type: none"> • All workers deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows works to move about easily and carry out their work.
DENR DAO 1997-30 Ch, IV, Sec. 1, Rule 17 (for underground mining)	Availability and use of safety gadgets	<ul style="list-style-type: none"> • Hard had, light, boots, gloves, goggles. • Hard hats are sometimes removed because it distracts work. • Provided by financier but once broken or worn out, will be replaced by the worker. 	<ul style="list-style-type: none"> • Hard hat and light (three out of five). • Hard hats are sometimes removed because it distracts work.
DENR DAO 1997-30 Ch. III, Sec. 3, Rule 13-1, 13-2, 13-7; Ch. III, Sec 5, Rule 14-12 Ch. III, Sec. 5, Rule 14	Conduct of inspection and meetings	<ul style="list-style-type: none"> • Area supervisors conduct inspection. • Meetings are conducted monthly by the association with the Board. 	<ul style="list-style-type: none"> • Team leader conducts the inspection. • Meetings are conducted once a month.
DENR DAO 1997-30 Rule 13 (8)	Recording system	<ul style="list-style-type: none"> • Daily timekeeping record indicates the areas where miners are assigned. 	<ul style="list-style-type: none"> • Recording system is through payroll checker.
	Communication system	<ul style="list-style-type: none"> • Use of whistles. 	<ul style="list-style-type: none"> • Use of hose pipe.

Policy/ Regulation	Requirement	Practice	
		Area 1-Benguet underground Mining	Area 2-Benguet underground mining
DENR DAO 1997-30 Ch. 3, Sec. 5, Rule 14-7 Ch. 7 Ch. IX, Sec. 2	Emergency preparedness, electrical safety rules, and other safety measures	<ul style="list-style-type: none"> • Safety boxes, safety breakers and control house in the mine site. • Availability of designated electrician and safety engineer. • Workers initiative to put warning signs. • May tap large-scale company to provide mine rescue equipment in times of emergency. 	<ul style="list-style-type: none"> • May tap other workers from other association in times of emergency. • The federation where they belong to may also provide rescuers in case of emergency. • The Municipal Disaster Risk Reduction and Management Council Office may also provide recovery operations equipment. • The team leader is said to be the rescuer of all players.
DOLE DO 149 Series 2016	Hazardous work and activities for persons below 18 years old	<ul style="list-style-type: none"> • No child labourer. 	<ul style="list-style-type: none"> • No child labourer.

4.1.2 Case 2: Region V (Camarines Norte)

Camarines Norte is bounded on the north by the Pacific Ocean, on the east by San Miguel Bay, on the west by Lamon Bay, and on the south by Quezon province. It is characterized by rolling hills and mountains in the interior, and the fertile plains and valleys along the coast. It has a total land area of 220,012 hectares where the land is largely within the 0-8 per cent slope⁶.

As of 2015 Census, Camarines Norte has a total population of 583,000⁷. There are 209, 625 gainful workers 15 years old and over in the province of which 148,383 are males and 61,242 are females (Table 10).

⁶<http://www.tourism.gov.ph/sitepages/InteractiveSitesPage.aspx?siteID=27>.

⁷<https://psa.gov.ph/content/population-region-v-bicol-based-2015-census-population>.

Figure 10. Map of Camarines Norte

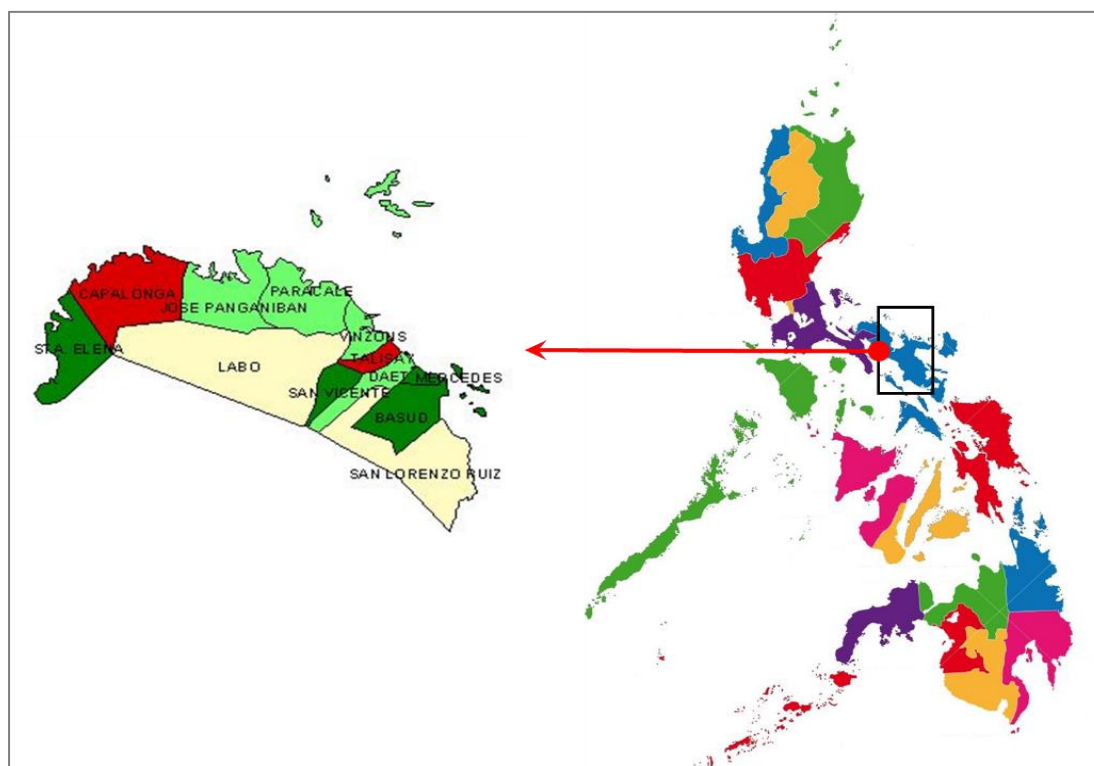


Table 10. Gainful workers 15 years old and over by major occupation Group in Camarines Norte (2015)

Major occupation group	Male	Female	Both sexes
Managers	6,359	11,790	18,149
Professionals	3,032	6,181	9,213
Technicians and associate professionals	4,898	4,436	9,334
Clerical support workers	2,733	3,731	6,464
Service and sales workers	12,885	16,056	28,941
Skilled agricultural forestry and fishery workers	46,230	3,399	49,629
Craft and related trades workers	14,366	2,450	16,816
Plant and machine operators and assemblers	15,061	296	15,357
Elementary occupations	42,308	12,783	55,091
Armed forces occupations	450	12	462
Other occupation not elsewhere classified	-	-	0
Not reported	61	108	169
Total	148,383	61,242	209,625

Source: Philippine Statistics Authority, 2017.

Coconut and abaca are its traditional agricultural crops. The province is the largest producer of pineapple (Formosa variety) in the region. It has abundant reserves of gold, iron, copper, uranium, lead and zinc. With its long coastline, a thriving fishery industry has gained importance among the seacoast towns⁸.

Two types of mines were seen during the conduct of fieldwork—surface (compressor mining) and underground (tunnel)—which are located in two separate towns of Camarines Norte. In both towns, no People’s Small-scale Mining area has been declared yet, although a number of applications are said to have been submitted to the MGB. At the time of the conduct of fieldwork, cease and desist order has been issued to different municipalities where small-scale mining is undertaken and two of which are the towns included in the study. Thus, no operations should have been taking place in the two towns. In 2016, Mining Industry Tripartite Council was created in the Province of Camarines Norte. With this being created, it may provide avenue to tackle issues on assistance to legalization and safe working conditions especially of the considerable number of small-scale miners in the province.

The following working conditions and safety practices are noted in the mining communities covered in Camarines Norte:

(a) Working conditions. Workers surveyed in Area 1 in Camarines Norte practice compressor mining. They mine under makeshift mines which they dig in the rice paddies and filled with muddy water. Miners breath through a tube connected to a compressor. Safety risks identified include faulty compressors which may lead to different sickness, disorders, and even death, mudslides that may crush or trap miners under water, exposure to chemicals like mercury. These hazards and risks are known to workers. Even the president of the federation in the town does not support compressor mining because of the extreme danger it poses to the workers. However, due to poverty, people cannot just stop as it is their only source of income. Because the area is near the residential houses of the workers, facilities in the area are not applicable but are usually at home.

Psychosocial concerns mentioned by two of the respondents are unreasonable work pace and only one said job dissatisfaction. In terms of working schedule, it is indefinite as workers are in control of their time or depend on the agreement with the group or team that are working. Payment can either be on a daily or weekly basis depending on the production. Women works together with men in the processing of soil taken from the makeshift mine. One female respondent used to be a financier but due to lack of capital, her operations have been stopped and just work for another financier. Only one of the five workers surveyed said that they are not being followed up on suggestions to improve safety in workplace and another one said that they are sometimes consulted on adequacy of facilities or have joined in making action plans.

On the other hand, workers surveyed in Area 2 works in an underground mining with a vertical entrance to the tunnel whose size fits one worker at a time to go down. The mine site observed is covered with a makeshift hut where improvised dining area and rest area of workers are located, together with ball mills for the processing of ores. Due to unexpected heavy rainfall during the time of fieldwork in Area 2, the actual mine site where the workers surveyed was not visited. The safety and hazards noted by the respondents include unstable timber that may lead to falling of rocks, suffocation, and use of mercury. In terms of the facilities, the following were mentioned: drinking water, toilet, hand washing, dining facilities, personal storage, and change

⁸<http://nap.psa.gov.ph/ru5/overview/camnorte/default.html>

room. In terms of working time, they work 24 hours by shifting and they are paid depending on the production and the income left after all expenses are deducted by the financier. No female in the separate mine site was observed but one of the respondents during the survey was a female who works as a cook for miners. The financier is also a female who was also present, together with her husband, at the time the fieldwork was conducted. Workers are said to be consulted in any decisions in terms of adequacy of facilities, join in making action plans with regard to safety measures and also take initiated to prevent accidents.

(b) Safety measures and practices. Area 1 does not have a safety committee/team. According to two respondents, two have first aid trainings and one on mine rescue and recovery operations. A pool of rescuers is said to be available who may also be their co-workers waiting above the makeshift tunnel. Moreover, two out of five workers deem that sanitation is monitored in work areas while four out of five workers say that underground workings are provided with adequate supply of fresh air and lighting allows works to move about easily and carry out their work. But upon description of one informant who experienced being trapped once, the muddy water makes it hard to move and see clearly once they dive in makeshift mine. Nonetheless, all respondents say that they have lights being used while working. Inspection is conducted either by the team leader or the financier and meetings are conducted once a week. Because of how the mines are set-up in compressor mining, communication system cannot be established. Children (ranging from 10-17 years old) are said to work in mines. They do panning, carry soil or also dive in the makeshift mines. According to the respondents this is due to poverty, for school allowance, or just work because they wanted it.

As for Area 2, safety and health team is said to be composed of the miners themselves. Three out of five workers said they have first aid training. Respondents say that team leader is said to be the rescuer of all players (referring to workers). All workers also deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows workers to move about easily and carry out their work. Three out of five workers say that hard hat and light are the safety gears provided and used although sometimes removed because they distracts work. Inspection is conducted by the team leader and usually there are four team leaders in a set of 12 players. Meetings are conducted once a month and the president or the contractor consults the workers. They use a logbook for recording system and communication system is through hose pipe or tubes in every corner of the tunnel. An association is established in the area and some of the policies is that child labour is prohibited, no gambling and alcoholic drink in the mines, and allocating some of the association's funds for emergency purposes such as assistance in the medication of members who met accidents in mines.

Table 11 shows the survey and interview results on the working conditions in the two mining areas included in the study while Table 12 presents the survey and interview results on the mine safety practices.

Table 11. Survey and interview results: Working conditions in selected small-scale mining areas in Camarines Norte (2015)

	Area 1-Camarines Norte compressor Mining	Area 2-Camarines Norte underground mining*
Physical environment and welfare facilities	<p>a) Mine site observed:</p> <ul style="list-style-type: none"> • Makeshift mines dug in the rice paddies and filled with muddy water. Miners breath through a tube connected to a compressor. <p>b) Safety risks:</p> <ul style="list-style-type: none"> • Faulty compressors which may lead to different sickness and disorders, and even death. • Mudslides that may crush or trap miners under water. • Use of mercury. <p>c) Facilities available: drinking water, hand washing, dining facilities.</p>	<p>a) Mine site observed:</p> <ul style="list-style-type: none"> • Vertical entrance to the tunnel. • Covered with a makeshift hut where improvised dining area and rest area of workers are places, together with ball mills for the processing of ores. <p>b) Safety risks:</p> <ul style="list-style-type: none"> • Unstable timber. • Suffocation. • Use of mercury. <p>c) Facilities available: drinking water, toilet, hand washing, dining facilities, personal storage, change room.</p>
Psychosocial concerns	<ul style="list-style-type: none"> • Unreasonable work pace (two out of five respondents). • Job dissatisfaction (one out of five respondents). 	None mentioned
Working time	<ul style="list-style-type: none"> • Indefinite schedule (workers are in control of their time or depends on the agreement with the group). 	<ul style="list-style-type: none"> • Every other 24 hours/shifting.
Remuneration	<ul style="list-style-type: none"> • Payment can either be on a daily or weekly basis depending on the production. 	<ul style="list-style-type: none"> • Payment of wages is not on a regular basis; this depends on the production and the income left after all expenses are deducted.
Ways of participation	<ul style="list-style-type: none"> • Women work together with men in the processing of soil taken from the makeshift mine. • One respondent used to be a financier but because of lack of capital, her operations have stopped. • Only one of the five workers surveyed said that they are not being followed up on suggestions to improve safety in workplace and that they are just sometimes consulted on adequacy of facilities or have joined in making action plans. 	<ul style="list-style-type: none"> • No female worker in the mine site was observed. • During the survey, one female respondent works as a cook for the miners. • Workers are said to be consulted in any decisions in terms of adequacy of facilities, join in making action plans with regard to safety measures and also take initiatives to prevent accidents.

*Due to unforeseen circumstances upon going to the mine site where the miners surveyed are working, a different mine site with the same set-up was observed. The answers in the table reflect both what was observed in the mine site and the answers to survey questionnaire.

Table 12. Survey and interview results: Safety measures and practices in selected small-scale mining areas in Camarines Norte

Policy/ Regulation	Requirement	Practice	
		Area 1-Camarines Norte compressor mining	Area 2-Camarines Norte underground mining
DENR DAO 1997-30 Ch.III, Sec. 2, Rule 10	Safety Organization	<ul style="list-style-type: none"> No available safety and health committee/team is established. 	<ul style="list-style-type: none"> Presence of safety and health team in the organization that is also composed of the mine workers.
DENR DAO 1997-30 Ch.III, Sec. 5, Rules 6 and 7	Provision of training and pool of rescuers	<ul style="list-style-type: none"> Trainings: First aid (two out of five); mine rescue and recovery operations (one out of five). Pool of rescuers are said to be available who may also be their co-workers waiting above the makeshift tunnel. 	<ul style="list-style-type: none"> Training: First aid training (three out of five). The team leader is said to be the rescuer of all players are also said to be available.
DENR DAO 1997-30 Ch.VI, Sec. 1-5,	Heath and Sanitation	<ul style="list-style-type: none"> Two out five workers deem that sanitation is monitored in work areas. Four out of five workers say that underground workings are provided with adequate supply of fresh air and lighting allows works to move about easily and carry out their work. 	<ul style="list-style-type: none"> All workers deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows workers to move about easily and carry out their work.
DENR DAO 1997-30 Ch, IV, Sec. 1, Rule 17 (for underground mining)	Availability and use of safety gadgets	<ul style="list-style-type: none"> Light (all five). 	<ul style="list-style-type: none"> Hard hat and light (three out of five); although hard hats are sometimes removed because it distracts work.
DENR DAO 1997-30 Ch. III, Sec. 3, Rule 13-1, 13-2, 13-7; Ch. III, Sec 5, Rule 14-12 Ch. III, Sec. 5, Rule 14	Conduct of inspection and meetings	<ul style="list-style-type: none"> Inspection is conducted either by the team leader or the financier. Meetings are conducted once a week. 	<ul style="list-style-type: none"> Inspection is conducted by the team leader; usually four team leaders in a set of 12. Meetings are conducted once a month; President or the contractor consults the workers.
DENR DAO 1997-30 Rule 13 (8)	Recording system	-	<ul style="list-style-type: none"> Use of logbook/record book.
	Communication system	-	<ul style="list-style-type: none"> Communication system: thru hose pipe or tubes in every corner of the tunnel
DENR DAO 1997-30 Ch. 3, Sec. 5, Rule 14-7 Ch. 7 Ch. IX, Sec. 2	Emergency preparedness, electrical safety rules, and other safety measures	-	-
DOLE DO 149 Series 2016	Hazardous work and activities	<ul style="list-style-type: none"> Children (ranging from 10-17 years old) are said to work in 	<ul style="list-style-type: none"> Child labour is prohibited within the association.

Policy/ Regulation	Requirement	Practice	
		Area 1-Camarines Norte compressor mining	Area 2-Camarines Norte underground mining
	for persons below 18 years old	mines. They do panning, carry soil or dive in the makeshift mines. <ul style="list-style-type: none"> Reasons for child labour: poverty, school allowance, or own will. 	
	Others	-	<ul style="list-style-type: none"> Other safety measures: the association include internal rules in the mining area (e.g. no gambling and alcoholic drink). A part of the association's fund can be used for emergency purposes such as assistance in the medication of members who meet accidents in mines.

(c) Challenges observed and other issues raised:

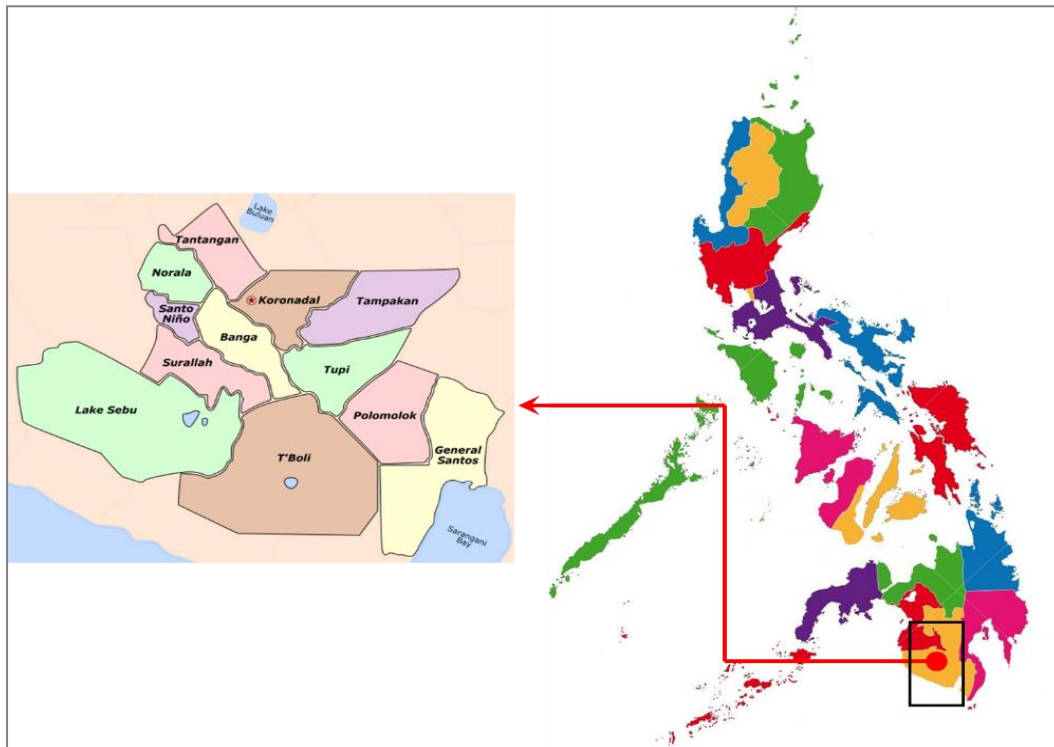
- Tedious and resource-intensive requirements for the application of “Minahang Bayan”.
- The local government finds it challenging to regulate because they are to begin with regarded as illegal; even with ceased and desist order, miners will still go back to mining as it is their primary source of livelihood. The LGU does not have the resources to provide subsidy for the miners affected.
- The association created from Area 2 was established also because of the realization that financiers from other provinces are just extracting the resources and left the community with nothing in the end once they have gained.
- Issue of representation of small-scale miners in the PMRB.
- Accidents and fatalities are not reported, concerned offices will just be made aware through news covered by media.
- Workers’ attitude of not being afraid of the risks in working underground even without protective equipment.
- Some of the workers interviewed in Area 1 are not fully aware of the consequences of mercury to their health. The challenge is how to make the training effective by making the miners comply with the standards.
- Changing the mindset of the families who involve their children in small-scale mining is both a behavioral and socio-economic issue of the family and the community where they belong.

4.1.3 *Case 3: Region XII (Province of South Cotabato)*

South Cotabato is bounded by the province of Sultan Kudarat in the north and west, in the east and south by the city of General Santos and province of Sarangani. South Cotabato is rich in

mineral resources especially in the mountainous areas of the municipalities of Tampakan and T'Boli (Figure 11). The exploration activities of small scale mining companies in the province revealed an indicated reserve of 2.2 billion tons of copper and 2.4 million tons of inferred gold and about 2 million inferred iron reserves. Non-metallic resources found in the province include sand and gravel, agri lime, shale and sandstone which are all pegged in millions of metric tons⁹.

Figure 11. Map of South Cotabato



As of 2015 Census, South Cotabato has a total population of 701,000¹⁰. There are 349,221 gainful workers 15 years old and over of which 243,978 are males and 105,243 are females (Table 13).

⁹<http://ro12.doh.gov.ph/index.php/health-profile/provincial-profile/south-cotabato>

¹⁰<https://psa.gov.ph/content/population-region-xiii-caraga-based-2015-census-population>.

Table 13. Gainful workers 15 years old and over by major occupation group in South Cotabato (2015)

Major occupation group	Male	Female	Both sexes
Managers	8,320	11,483	19,803
Professionals	5,340	10,915	16,255
Technicians and associate professionals	5,623	5,967	11,590
Clerical support workers	5,349	7,731	13,080
Service and sales workers	19,486	19,111	38,597
Skilled agricultural forestry and fishery workers	64,535	5,849	70,384
Craft and related trades workers	16,837	3,487	20,324
Plant and machine operators and assemblers	32,218	582	32,800
Elementary occupations	84,554	39,892	124,446
Armed forces occupations	1,559	46	1,605
Other occupation not elsewhere classified	2	-	2
Not reported	155	180	335
Total	243,978	105,243	349,221

Source: Philippine Statistics Authority, 2017.

Two “Minahang Bayan” in one municipality are said to have been declared as “Minahang” Bayan. This is quite confusing as the list of “Minahang Bayan” by MGB-Central Office does not include the province. The declaration of “Minahang Bayan” in South Cotabato in 1994 could be a result of the devolution of powers to the local government and at the same time the differences of interpretation in the previous implementing rules and regulations of RA 7076.

The province is proud to have a "Minahang Bayanihan" Programme in the area. This programme promotes responsiveness, convergence, and good governance as key strategies which considers economy, environment, and social equity toward a sustainable small-scale mining. The programme also aims to facilitate compliance to regulatory requirements and help in the establishment of transparency and accountability in the small-scale mining sector. One of the strategies of the programme is the construction of a “Minahang Bayan” Center in partnership with the local government to provide easy access for miners and operators to process permits and payment of taxes/fees. It also serves as a venue for SSM trainings and seminars. Further, it was made known that an identity document (ID) system for miners is being implemented and in the province and ID cards are issued by the Provincial Government of South Cotabato. According to both miners and the Provincial Environment Management Office (PEMO), safety and health trainings prior to the issuance of IDs is one of the requirements. Permittees are said to be unable to secure permits if the necessary requirements on mine safety and health parameters in the verification checklist of the Provincial Government is not complied. Such includes availability of min record book, nitrification of accidents or occurrences to PMRB/PEMO, no minors at the work site, availability and maintenance of facilities, safe electrical installations, availability of mine safety and pollution inspectors, among others that are also in DAO 97-30.

As per records of MGB Region XII, a number of casualties that happened from 2011-2016 include suffocation in an abandoned underground mine working, electrocution from a grounded blower, shallow debris slide, and suffocation due to insufficient underground ventilation. Women’s participation is highlighted in some of the related studies in women in mining in Mindanao. However, no women miners are said to be involved in the area covered. Moreover, as to the child labour in mining, the barangay’s rating improved to Level 3 where child labour issues are said to be addressed.

The following working conditions and safety practices are noted in the mining community covered in South Cotabato:

(a) Working conditions. The mine site observed has a horizontal entrance wide enough for a person to enter without bending. No safety and health risks have been mentioned by the respondents except for muscle pains. In terms of the welfare facilities, drinking water, toilet, hand washing, dining facilities, personal storage, change room, and television area were all said to be available. No psychosocial concerns are mentioned. Miners working underground are encouraged to work from 7 a.m. until 3 p.m. from Monday to Saturday. Their payment depends on the number of days on duty and is given depending when they decide to share the stocks or bags produced. Workers sometimes determine when they wanted the stocks to be divided but others wait until the gold produced is sold. Quota is set and follow sharing scheme approved by the association. Php1,000 allowance per week is also provided by the financier that will be deducted after production. A typical sharing scheme includes a share for landowner, permittee/contractor, miners, management staff, tribal group, barangay, financier and for standard operating procedures. In terms of participation, associations in the area are advised by the province not to have women workers in the mine site. Thus, women are provided with other means of livelihood (i.e. jewelry making). The small-scale miners give the raw materials for a low price to the women's association to be used for the jewelries. All workers surveyed claim that their suggestions are taken into consideration, consulted on safety measures, and are free to voice out concerns on safety measures. In action plans, team leaders and operations manager are the only ones involved.

(b) Safety measures and practices. No health and safety team established in the mine site but the operations manager act as safety inspector determining hazards and risks underground. Trainings acquired by the workers include first aid and mine rescue and recovery operations (all five respondents). In terms of rescuing workers during emergency cases, their 'minero unity' enables each of the associations to tap other miners to rescue affected workers. Rescue team is available from the town but since it is quite far they resort to the unity of mine workers in the area. All workers deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows works to move about easily and carry out their work. When one is sick, cash advance may be requested from the financier. Health insurance may be availed through declaring miners as indigent. Hard hat, light, boots, gloves, shirt, reflectorized vest are said to be provided by financier and request can be made once broken or worn out. As to inspection, it is conducted by team leader every day and every 15 days by the PEMO or Municipal Environment and Natural Resources Office (MENRO). There is also a joint monitoring by PEMO and MGB every quarter. Also, daily meetings for workers underground are conducted and safety meetings are conducted twice a month. As to the recording system, mine record book serves as the daily timekeeping record and monitoring of workers underground. The back pages of the record book include accident reports that are checked by PEMO during their monitoring. Moreover, the use of hose pipe for communication is practiced. According to the respondents, child labourers are not allowed in mine sites as tunnel owners will be questioned and be issued with closure order once children are seen to work in mines.

Table 14 shows the survey and interview results on the working conditions one of the mine sites in South Cotabato while Table 15 presents the survey and interview results of their mine safety practices.

Table 14. Survey and interview results: Working conditions in one of the mining areas observed in South Cotabato

	Area1-South Cotabato underground mining
Physical environment and facilities	<p>a) Mine site observed: Horizontal entrance high enough for a person to enter without bending.</p> <p>b) Health and safety risks: muscle pain.</p> <p>c) Facilities available: drinking water, toilet, hand washing, dining facilities, personal storage, change room, and television area.</p>
Psychosocial concerns	None mentioned
Working time	Miners are encouraged to work from 7a.m. until 3 p.m. (Monday to Saturday)
Remuneration	<ul style="list-style-type: none"> • Payment depends on the number of days on duty and given depending when the sharing of stocks is made. Workers sometimes determine when they wanted the stocks to be divided but others wait until the gold produced is sold. • Quota is set and follow sharing scheme as approved by the association. Php 1,000 allowance per week is also provided by the financier that will be deducted after production. • A typical sharing scheme includes a share for landowner, permittee/contractor, miners, management staff, tribal group, barangay, financier and SOP.
Ways of participation	<ul style="list-style-type: none"> • Associations are advised by the province not to have women workers in the mine site but are provided with other means of livelihood (i.e. jewelry making); small-scale miners give the raw materials for a low price to the women's association to be used for the jewelries. • All workers surveyed claim that their suggestions are taken into consideration, consulted on safety measures, and are free to voice out concerns on safety measures. • In action plans, team leaders and operations manager are the only ones involved.

Table 15. Survey and interview results: Safety measures and practices in one of the mining areas observed in South Cotabato

Policy/ Regulation	Requirement	Practice
		Underground mining
DENR DAO 1997-30 Ch.III, Sec. 2, Rule 10	Safety Organization	<ul style="list-style-type: none"> No health and safety team established but the operations manager acts as safety inspector determining hazards and risks underground.
DENR DAO 1997-30 Ch.III, Sec. 5, Rules 6 and 7	Provision of training and pool of rescuers	<ul style="list-style-type: none"> Trainings acquired: first aid and mine rescue and recovery operations (all five respondents). Rescuers are the miners themselves; 'Minero unity' enables each of the associations to tap other miner to rescue affected workers. Rescue team is available from the town but since it is quite far they resort to the unity of mine workers in the area.
DENR DAO 1997-30 Ch.VI, Sec. 1-5,	Heath and Sanitation	<ul style="list-style-type: none"> All workers deem that sanitation is monitored in work areas, underground workings are provided with adequate supply of fresh air, and lighting allows works to move about easily and carry out their work. When one is sick, cash advance may be requested from the financier. Health insurance may be availed through declaring miners as indigent.
DENR DAO 1997-30 Ch, IV, Sec. 1, Rule 17 (for underground mining)	Availability and use of safety gadgets	<ul style="list-style-type: none"> Hard had, light, boots, gloves, shirt, reflectorized vest. Provided by financier; request can be made once broken or worn out.
DENR DAO 1997-30 Ch. III, Sec. 3, Rule 13-1, 13-2, 13-7; Ch. III, Sec 5, Rule 14-12 Ch. III, Sec. 5, Rule 14	Conduct of inspection and meetings	<ul style="list-style-type: none"> Inspection is conducted by team leader every day; every 15 days by PEMO/MENRO; joint monitoring by PEMO and MGB every quarter. No process of investigation within the group of workers in the tunnel visited exist. Daily meetings for workers underground are conducted; safety meetings are conducted twice a month.
DENR DAO 1997-30 Rule 13 (8)	Recording system	<ul style="list-style-type: none"> Mine record book-serves as the DTR and monitoring of workers underground. The back pages of the record book include accident reports that are checked by PEMO during their monitoring.
	Communication system	<ul style="list-style-type: none"> Use of hose pipe for communication.
DENR DAO 1997-30 Ch. 3, Sec. 5, Rule 14-7 Ch. 7 Ch. IX, Sec. 2	Emergency preparedness, electrical safety rules, and other safety measures	<ul style="list-style-type: none"> Operations manager also check electrical wires and proper installation.
DOLE DO 149 Series 2016	Hazardous work and activities for persons below 18 years old	<ul style="list-style-type: none"> Child labourers are not allowed in mine sites. Tunnel owner will be questioned and be issued with closure order once children are seen to work in mines.

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4.1.4 Case 4: Region XIII (Province of Agusan del Sur)

Agusan del Sur is an elongated basin formation with mountain ranges in the eastern and western sides forming a valley, which occupies the central longitudinal section of the land. Forestland constitutes 76 per cent of the total land area or 6,827.5 km² while the alienable and disposable constitutes about 24 per cent or 2,137.5 km². Present land use, however showed that settlements and commercial areas already occupy some of the forestlands. Through the years, the province has lost so much of its forest resources because existing industries are extractive in nature¹¹ (Figure 12). The area is subdivided into 13 municipalities and one city. As of the 2015 Census, Agusan del Sur has a total population of 701,000¹². There are 294, 468 gainful workers 15 years old and over of which 196, 285 are males and 98,183 are females (Table 16).

¹¹<http://www.agusandelsur.gov.ph/index/about-pgas/2011-11-17-16-33-44/2011-08-15-05-52-37/geography-demography>.

¹²<https://psa.gov.ph/content/population-region-xiii-caraga-based-2015-census-population>.

Figure 12. Map of Agusan del Sur

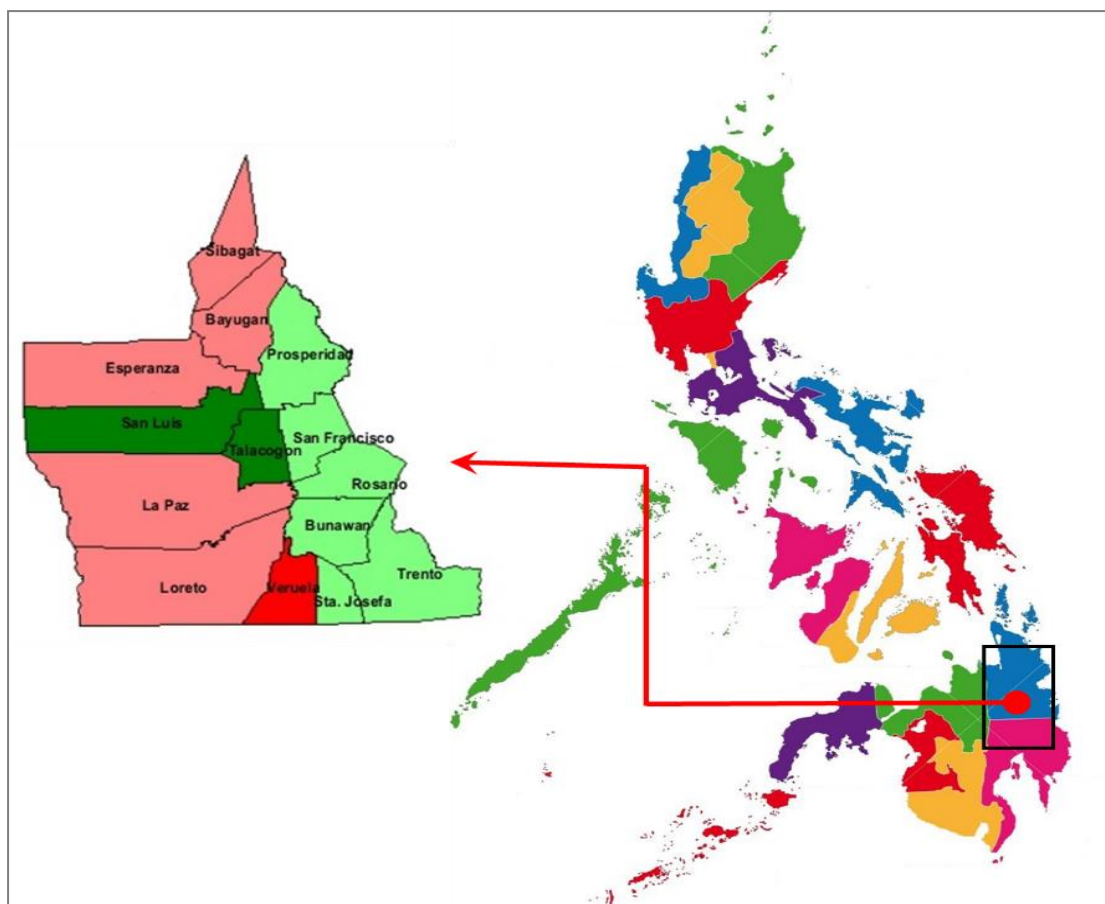


Table 16. Gainful workers 15 years old and over by major occupation group in Agusan del Sur (2015)

Major occupation group	Male	Female	Both sexes
Managers	6,807	13,012	19,819
Professionals	2,989	7,243	10,232
Technicians and associate professionals	2,940	3,093	6,033
Clerical support workers	3,499	4,008	7,507
Service and sales workers	10,854	16,628	27,482
Skilled agricultural forestry and fishery workers	77,705	11,782	89,487
Craft and related trades workers	11,915	1,746	13,661
Plant and machine operators and assemblers	16,523	288	16,811
Elementary occupations	61,397	40,337	101,734
Armed forces occupations	1,639	30	1,669
Other occupation not elsewhere classified	4	3	7
Not reported	13	13	26
Total	196,285	98,183	294,468

Source: Philippine Statistics Authority, 2017.

While CARAGA Region, has major agricultural products like *palay*, corn, coconut, gold, banana, rubber, oil palm, calamansi, prawns, milkfish, crabs, seaweeds and mango, Agusan del Sur's main product is gold¹³.

One mining site within the recently declared "Minahanag Bayan" in Rosario is covered in the study. The declared "Minahang Bayan" in the province covers 592.393 hectares. With the declaration of a "Minahang Bayan", three contracts are now existing in the area. According to the association that petitioned for "Minahang Bayan", declaring an area as a "Minahang Bayan" will make it easier for the local government to control and regulate small-scale miners. It was argued that with the declaration of the area as "Minahan Bayan" and with the association on one hand, the Municipal Environment and Natural Resources Office (MENRO) does not need to follow-up on individual tunnels when there are reports of violation. Instead, they follow-up on the association. Moreover, the association implements policies that are created by their Board of Directors. These are said to be aligned with the MGB's rules and regulations for underground mining that each of the contractor and mine workers should comply with. In addition, the association set additional rules such as no child labour and hydraulic mining are allowed.

Nonetheless, as per inquiry with PMRB Chairperson at the time the fieldwork is conducted, no audit checklist for small-scale mining has been created yet. It is also a challenge that the Chairperson for Agusan del Sur is also the one in-charge in other provinces in the region. It was also adhered that classification of small-scale and large-scale mining maybe too stiff that it must look into the possibility of having those graduating from small-scale to medium-scale mining.

The following working conditions and safety practices are noted in the mining community covered in Agusan del Sur:

(a) Working conditions. The mine site observed has a horizontal entrance wide enough for a person to enter without bending. Safety and hazards mentioned by the respondents include exposure to dust and chemicals, noise and vibration, poor ventilation, inappropriate equipment, and falling debris. In terms of the welfare facilities, drinking water, toilet, hand washing, dining facilities, personal storage, change room, are said to be available. Of all mine sites observed, it was seen in this area that toilets are really maintained near the mine site. In terms of the psychosocial concerns, verbal and physical abuse was noted by one respondent, unreasonable work pace, and job dissatisfaction. As to the work schedule, it is not consistent to all miners. Miners either work every day for 7 hours or 12 hours, twice a week for 5 hours, or indefinite as they are on call. Payment is either once a month, every 15 days, or depends on when they would like to get it. As per interview, daily payment is given separate from the share or 'bonus' they may get if they have good production. The families of the workers are also provided with goods (e.g. rice and noodles) which are deducted from their payment. No activities are said to be undertaken by women. All workers surveyed, except for one, claim that their suggestions are taken into consideration, consulted on safety measures, and all said that they are free to voice out concerns on safety measures.

¹³<http://www.dti.gov.ph/regions/caraga/caraga-profile-of-region>

(b) Safety measures and practices. Tunnel inspection committee of the association that petitioned for “Minahang Bayan” is created which also serves as the safety committee. Trainings acquired include first aid (five out of nine respondents); firefighting (two out of nine respondents); mine rescue and recovery operations (six out of nine respondents). Moreover, sanitation is seen by most of the respondents to be monitored in work areas. Just like in other areas, underground workings are seen by workers to be provided with adequate supply of fresh air, and lighting allows works to move about easily and carry out their work. In cases where accidents happen, the financier is said to cover the costs of hospitalization and medication of the miners. As to the availability and use of safety gadgets, boots, lights, and hard hat are mentioned by almost all the respondents. As to inspections, these are said to be conducted by team leaders every day and by supervisors every month. Most of the respondents noted that meetings are conducted monthly. The recording system is through record book where time shift and assigned area are indicated. Buddy system is practiced in going in and leaving the tunnel. In terms of communication, an intercom in selected areas are also in place. According to the association president, a consultant was hired for the work plan. Also, a clinic is set to be constructed near the mine site funded by the financier. Meantime, they also practice tapping the Department of Health to conduct monthly monitoring of health conditions of workers. Included in the policy of the association that contractors must adhere to is that no child labourer is allowed in mines.

Table 17 shows the survey and interview results on the working conditions one of the mine sites in Agusan del Sur while Table 18 presents the survey and interview results of their mine safety practices.

(c) Challenges observed and other issues raised:

- Tedious and resource-intensive requirements for a “Minahang Bayan”.
- No social protection schemes for workers.
- No nearby clinic or hospital during emergency cases.
- Applicability of the definition of small-scale mining to actual operations.

Table 17. Survey and interview results: Working conditions in one of the mining areas observed in Agusan del Sur

	Area 1-Agusan del Sur underground mining
Physical environment and facilities	<p>a) Mine site observed:</p> <ul style="list-style-type: none"> • Horizontal entrance high enough for a person to enter without bending. • A compressor machine is placed outside the adit. <p>b) Safety risks (survey results out of nine respondents):</p> <ul style="list-style-type: none"> • Exposure to dust (three) • Exposure to chemicals (one) • Noise and vibration (one) • Poor ventilation (three) • Inappropriate equipment (one) • Falling debris (three) <p>c) Facilities available: drinking water, hand washing, dining facilities, personal storage, change room.</p>
Psychosocial concerns	<p>Out of nine respondents:</p> <ul style="list-style-type: none"> • Verbal abuse (one) • Physical abuse (one) • Unreasonable work pace (one) • Job dissatisfaction (two)
Working time	<p>Various work schedule:</p> <ul style="list-style-type: none"> • Every day for seven hours or 12 hours • Twice a week for five hours • Indefinite (on call) • Every two days
Remuneration	<ul style="list-style-type: none"> • Payment is either once a month, every 15 days, or depends on when they would like to get it. As per interview, daily payment is given separate from the share or 'bonus' they may get if they have good production. • The families of the workers are also provided with goods (e.g. rice and noodles) which are deducted from their payment.
Participation	<ul style="list-style-type: none"> • No activities are said to be undertaken by women. • All workers surveyed, except for one, claim that their suggestions are taken into consideration, consulted on safety measures, and all said that they are free to voice out concerns on safety measures.

Table 18. Survey and interview results: Safety measures and practices in one of the small-scale mining areas in Agusan del Sur

Policy/ Regulation	Requirement	Practice
		Area 1-Agusan del Sur underground mining
DENR DAO 1997-30 Ch.III, Sec. 2, Rule 10	Safety organization	<ul style="list-style-type: none"> Tunnel inspection committee of the association that petitioned for Minahang Bayan is created which also serves as the safety committee.
DENR DAO 1997-30 Ch.III, Sec. 5, Rules 6 and 7	Provision of training and pool of rescuers	<ul style="list-style-type: none"> Trainings acquired: first aid (five out of nine respondents); firefighting (two out of nine respondents); mine rescue and recovery operations (six out of nine respondents). Availability of pool of rescuers: yes (seven out of nine respondents); no (two out of nine respondents).
DENR DAO 1997-30 Ch.VI, Sec. 1-5,	Heath and sanitation	<ul style="list-style-type: none"> Seven out of nine respondents deem that sanitation is monitored in work areas while one said no and another one answered sometimes. Underground workings are seen to be provided with adequate supply of fresh air, and lighting allows works to move about easily and carry out their work. In cases where accidents happen, the financier is said to cover the costs of hospitalization and medication of the miners.
DENR DAO 1997-30 Ch, IV, Sec. 1, Rule 17 (for underground mining)	Availability and use of safety gadgets	<ul style="list-style-type: none"> Boots (seven out of nine respondents). Lights (six out of nine respondents). Hard hat (six out of nine respondents).
DENR DAO 1997-30 Ch. III, Sec. 3, Rule 13-1, 13-2, 13-7; Ch. III, Sec 5, Rule 14-12 Ch. III, Sec. 5, Rule 14	Conduct of inspection and meetings	<ul style="list-style-type: none"> Inspections are said to be conducted by team leaders every day and by supervisors every month. Seven out of nine respondents noted that meetings are conducted monthly.
DENR DAO 1997-30 Rule 13 (8)	Recording system	<ul style="list-style-type: none"> Through mine record book that indicates assigned area and time of shift. Buddy system is practiced (going in and leaving the tunnel).
	Communication system	Intercom in every area where workers are assigned.
DENR DAO 1997-30 Ch. 3, Sec. 5, Rule 14-7 Ch. 7 Ch. IX, Sec. 2	Emergency preparedness, electrical safety rules, and other safety measures	<ul style="list-style-type: none"> Consultant was hired for the work plan. A clinic is set to be constructed near the mine site. Taps DOH to conduct monthly monitoring of health conditions of workers.

DOLE DO 149Series 2016	Hazardous work and activities for persons below 18 years old	Included in the policy of the association that contractors must adhere to is that no child labourer is allowed in mines.
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4.1 General findings

4.2.1 There is a gap between the definition of SSM and practices in terms of mode of extraction (i.e. existence of explosives for extraction). The use of compressor mining is not explicitly mentioned in DAO 1997-30.

4.2.2 The physical environment and welfare facilities available in small-scale mines vary in scope and conditions. Various working schedules are also observed but usually there is sharing scheme for remuneration. In the small-scale mining areas visited, only one admitted of having major accident (falling of rock) and another with fatality due to gas poisoning. Most of them claim that minor accidents just happen in their tunnels. Health programmes are usually referred to provision of medicines or first aid. In all areas, data on accidents, injuries, and death is hard to establish. Mine sites are usually far from the clinics or hospitals, this makes the workers more vulnerable and be at risk when accidents happen. The Occupational Safety and Health Standards (1989) of DOLE does not cover the mining industry as stated in Rule 1003.04. Nonetheless, the DAO 1997-30 of DENR, in pursuant to Sec.24 (d) of R.A. 7076, health, sanitation and safety measures provides safety rules and regulations specific for small-scale mining.

4.2.3 Many of those issued with permits before and most especially those operating outside “Minahang Bayan” are faced with legality issues. Complex application procedures on “Minahang Bayan” Application and rent-seeking are some of the recurring issues. Moreover, the existence of employee-employer relationship is hard to establish given the work arrangement and set-up in the mine sites observed. Issues on workers’ rights and social security have not been mentioned.

4.2.4 Women take part in mining activities in some areas, but their indirect role in mine operations are somehow neglected in the mine sites covered where women workers are available. Discrimination on women as financier or leader of an association is not prevalent. Economic status rather than gender is more of a consideration. Anti-child labour campaign is seen to be observed in most of the areas covered. Although challenge remains to be addressed especially for those who regard mining as a family business and allow children to do mining activities due to poverty. Moreover, based on the profile of respondents, it can be noted that a number of them were child labourers which continued to work in mines at present.

4.2.5 Under the DAO 97-30, no explicit section on the rights and duties of workers and their representatives, although rules on underground, for miners to adhere to are available and that the DAO 2015-03 Sec. 18 (a-5), states that under the Mineral Processing License Terms and Conditions, respect of the right of women workers to participate in policy and decision-making processes affecting their rights and benefits and to not discriminate on the basis of gender is indicated.

4.2.6 Chapter III of DAO 1997-30, provides rules on the safety organization (Sec.2), duties and responsibilities of safety inspector (Sec. 4), and of Permittee/Operator/Contractor/ Association (Sec. 5). While experiences differ in each of the areas covered, some of the highlights of the practices and challenges in ensuring safe working conditions are indicated in Table 19.

4.2.7 The role of PMRB and LGUs concerned is crucial in regulating the small-scale mining communities. Having the political will to regulate and assist the small-scale miners whose operations exist outside “Minahang Bayan” is pertinent in the discourse towards providing an appropriate working condition for the small-scale miners.

Table 19. Summary of practices and challenges vis-à-vis small-scale mine safety rules and regulations

DENR DAO 1997-30	Practices/Challenges
Chapter III Reporting system	<ul style="list-style-type: none"> Report and investigation of accidents are practiced in some of the areas, but no consistent procedure is followed; monthly report on accidents and sickness to the Board and copy furnished DOLE is not observed.
Chapter III, Sec. 2. Safety Organization	<ul style="list-style-type: none"> Ratio of safety inspector in mines required from a single or group of SSM operators/permittees/contractors is not observed. Safety inspectors are usually the portal owner/team leader (underground mines).
Chapter III, Sec. 4 Duties and Responsibilities of Safety Inspector	<ul style="list-style-type: none"> Availability of mining inspector at the barangay, municipal and provincial government levels in one of the areas covered. All workers in SSM surveyed said that they are given the information they need to work safely. While majority states that there is a process of investigating workplace safety concerns. However, as to the documentation, lack of records to support the process are observed. Others would also admit that records are not really practiced but if needed for them to improve operations, then they are willing to comply.
Chapter III, Sec. 5. Duties and Responsibilities of Permittee/ Operator/ Contractor/ Association	<ul style="list-style-type: none"> Availability of welfare facilities are not consistent in the areas covered. It ranges from having the facilities in good condition to makeshift to none. Safety paraphernalia or protective gears available or are used include hard hat, lights, and boots. For some, this is provided by the portal owners/financier but are replaced by them once lost or worn out. Because of informality, existing labour, SSS health rules and regulations as indicated in DAO 1997-30 is not observed. First aid station is not available within the mine site for most of the areas covered. Trainings acquired that are usually mentioned by the miners include first aid, mine rescue and recovery operations, and firefighting. To be safe from danger (landslide), operations are being stopped; messages are conveyed through hosepipe or light signals. Pool of rescuers are said to be available in most areas, but they usually refer to co-workers or through the rescuers from the federation that they have.

	<ul style="list-style-type: none"> • Accidents are not recorded; sometimes even concealed. • Safety instructions or warnings are provided in the dialect/language that one understands. • Most of the time, inspectors are the team leaders or portal owners. They are said to be inspecting daily. • The Safety Committee that may be tapped for emergency cases is said to be established in one of the areas covered because of the existence of a federation of SSM. In one of the sites visited, the availability of a nurse is available. But for others, safety and health committee is non-existing. • Meetings are common in most areas covered. These are usually conducted every month or every week or sometimes when the need arises. • Annual medical and physical examination of workers are not observed. Although one practice observed in one of the sites visited is that they invite DOH to check on their workers once a month.
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Table 20. Summary of survey results: Psychosocial environment, health and safety risk and ways of participation

Psychosocial Environment	<ul style="list-style-type: none"> • As to physical conditions and mental demands that exist in the workplace, only seven respondents from the surveyed miners have indicated psychosocial difficulties encountered of which only two mentioned that this is being addressed by the contractor/permittee/association/portal owner.
Health and Safety Risks	<ul style="list-style-type: none"> • In terms of the physical work environment and facilities it was noted from the survey that exposure to dust, inappropriate equipment, and effects of poor ventilation are the common reasons recognized as health and safety risks to workers. • Children working in mines are noted by a few respondents. Some of the reasons mentioned are for food allowance in school or because of poverty.
Ways of Participation	<ul style="list-style-type: none"> • Mining activities undertaken by women are available in some of the areas covered. They are either involved in jewelry making (silver), panning/sluicing, and some are even involved in compressor mining. • Moreover, in terms of levels of participation, the majority of respondents regard that workers join in making action plans about safety measures to be undertaken and that all workers said they are free to voice concerns.

5. CONCLUSION AND RECOMMENDATIONS

The discourse on ensuring safety and appropriate working conditions in small-scale mining covers different aspects and wide range of dimensions. Aside from technical considerations, the socio-economic, political, environmental and governance concerns should all be taken into consideration. While environmental and safety aspects in mining sector are explicitly mentioned in policies and regulations, labour standards and working conditions are yet to be fully mainstreamed. The lack of data on the number of men and women involved in small-scale mining and accident reports should not be a reason to further neglect the support. With the newly enacted OSHS Law and the pending Senate bill on the Magna Carta for Workers in the Informal Economy, safe and healthy working conditions and social protection of workers in this sector are of a substantial matter to be put forward, respectively.

The following options are identified as ways forward to address existing challenges towards a safe and appropriate working conditions for the small-scale miners:

<p>Mining policy and institutional capacity</p>	<p><i>Definition.</i> The definition of small-scale mining and the extreme classification between small- and large-scale mining should be reviewed as technological, environmental, socio-economic changes have been experienced since the time SSM was defined. The issue on the use of simple implements that may no longer be applicable or more risks are faced by workers if they continue to rely heavily on manual labour should be taken into account. Moreover, requirements for “Minahang Bayan” application are said to be almost the same as in the large-scale mining. And yet, contract may only be extended up to six years for small-scale mining.</p> <p><i>Data and statistics.</i> Addressing statistical invisibility and lack of profiling of small-scale miners will be of aid in determining how many workers are involved in small-scale mining and are affected with issues of legalization given the issuance of recent mining policies.</p> <p><i>Small-scale miners’ organizations.</i> Create small-scale miners’ organizations that can be the voice which can represent small-scale miners in the region especially in handling negotiations with the government, as well as in mobilizing assistance to small-scale miners.</p> <p><i>Convergence.</i> Convergence of efforts and policies among different government agencies and other organizations especially in monitoring and in inspection of SSM. DOLE may be invited in PMRB meetings to specifically provide inputs and come up with necessary collaboration with the LGU and MGB regional Offices in addressing labour issues, working conditions, and social safety nets of small-scale miners. Establishing an industry tripartite council may be considered where the real representation of small-scale miners in the area is ensured.</p>
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Safety and health regulations	<i>Tailored-fit safety and health regulations and services.</i> The OSHS Law can provide opportunities for strengthening OSH in small-scale mining. But safety and health programs should be formulated in consideration with the context within which the small-scale miners are situated. There could be a progressive adoption of rules in line with the ILO Convention 176 that must be done but on case to case basis and in consultation with whom the rules are to be implemented. Basic OSH training modules may also be modified that will fit in the context of small-scale miners. Furthermore, locally enforced safety security systems which allow miners to watch each other's mining practices to ensure that the set safety standards are adhered to will be of great significance if established. The Appendix presents the CEACR Observations, adopted in 2016, vis-à-vis policies in the country and the recommendations to address existing challenges.
Child labour	<i>Child-labour free community.</i> Programmes in the prevention and elimination of child labour must determine the receptiveness of the families involved and the reasons that hinder or promote acceptance; availability of alternative livelihood must not follow a one-size fits all approach in the small-scale mining communities. Policies to eliminate child labour should also consider the value chain of small-scale gold mining in a global context.
Gender mainstreaming	<i>Gender-sensitive approaches to safe working conditions.</i> Policies should be made and implemented with a gender perspective as women in small-scale mining are also at risk to various hazards. The indirect participation of women in mining operations should not be seen as a non-mining related activity. Also, their social roles in the mining communities in the pursuit of safe and appropriate work conditions should be considered in the creation of policies.
Minerals marketing and technical assistance	<i>Provision of services or incentives.</i> The unaccounted contribution of gold production of the small-scale miners may be addressed if they are also given a more enabling environment for them to sell their production. Services for health care and improved technology for the processing of ores must also be tailored-fit to different small-scale mining communities. Assistance for value-adding activities in mining activities should also be provided. There may be specialized trainings for small-scale miners that are accessible to them. They must also be assisted to enable them to convert to Minahang Bayan.

Indeed, cooperation among various concerned offices and agencies is necessary to harmonize policies and programmes needed not just for joint inspection and monitoring in small-scale mining areas but to assist them in pursuing a safe and healthy work conditions for all its workers, along with other addressing issues of poverty, transparency and sustainability.

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APPENDIX

CEACR observations (adopted 2016) vis-à-vis Philippine policy and practices observed

CEACR observations	Philippine policy and regulation	Practices from the areas covered	Ways forward/Recommendations
<p><i>Article 5(5) of the Convention. Plans of workings.</i></p>	<p>DAO 2015-03 Section 10. Application to Enter into a Small-Scale Mining Contract</p> <p><i>Requirements:</i></p> <p>(d) Location map of the proposed small-scale mining contract area showing its geographic coordinates/meridional block(s) and boundaries in relation to the “Minahang Bayan”, major environmental features and other projects using a National Mapping and Resources Information Authority (NAMRIA) topographic map in a scale of 1:50,000 or 1:10,000 duly prepared, signed and sealed by a deputized Geodetic Engineer;</p> <p>(e) Sketch plan of the proposed small-scale mining contract area at a convenient scale duly prepared, signed and sealed by a deputized Geodetic Engineer;</p> <p>(f) Proposed small-scale mining contract;</p> <p>(h) Proposed Two-Year Work Programme;</p> <p>(i) Potential Environmental Impact Management Plan (PEIMP);</p> <p>(j) Certificate of Environmental Management and Community Relations Record (CEMCRR) or Certificate of Exemption, in lieu of a CEMCRR, if the applicant has neither past nor present mineral resource use or mining-related venture(s);</p>	<ul style="list-style-type: none"> • The majority of the respondents surveyed indicate that they are aware of the work plan and have access to it. However, workers, especially in smaller tunnels understand the work plan through verbal instructions or because of the traditional skills to look for gold-bearing veins even without formal education. Those with bigger tunnels are usually the ones to have a sketched work plan. • Those with application for “Minahang Bayan” or has been declared as “Minahang Bayan” submits plans as one of the requirements that must be complied before the declaration. 	<ul style="list-style-type: none"> • The declaration of a “Minahang Bayan” is a crucial step as this requires the necessary plans of working and certification prior to the start of the small-scale mining operations. Hence, technical assistance in the meeting the requirements for the application of small-scale miners for a “Minahang Bayan” and small-scale mining contracts may further be extended by MGB through the PMRB to fast track their formalization.

	(k) Community Development and Management Programme (CDMP); (l) Annual Safety and Health Programme		
<i>Article 7(a). Safe design and construction of mines and provision of electrical, mechanical and other equipment.</i>	<p>DAO 1997-30 Rule 231</p> <p>All electrical construction and/or installations shall be made in accordance with the plans/specifications duly approved by the Board or its equivalent and shall be under the supervision of a competent electrical engineer and/or licensed master electrician.</p>	<ul style="list-style-type: none"> • One of the practices observed in one of the areas covered is the conduct of verification by the PEMO which includes the following health and safety parameters: <ol style="list-style-type: none"> 1. Mine record available 2. Accidents or occurrences notified by PMRB/PEMO 3. Daily or shift inspection conducted by competent person 4. Availability of Mine Safety and Pollution Control inspectors 5. Facilities maintained and cleaned, adequate ventilation, washing facilities available 6. Adequate potable water available 7. Toilet facilities provided and maintained 8. Slips, trips or fall hazards controlled 9. Principal hazards identified 10. Appropriate PPE for hazardous jobs or tasks 11. Clean and tidy work area 12. Communications (emergency and general) 13. Signage (includes tunnel general info and PPE, safety and restricted access) visible, legible, good condition 14. No minor at work site 15. With safe portal entrance 16. Stockpiles maintained in safe condition 	<ul style="list-style-type: none"> • A stricter implementation of DAO 1997-30 needs to be observed; the use of verification checklist of local authorities prior to the issuance of permits to tunnel operators, as well as a system on monitoring/updating, be established to determine whether or not the application for small-scale mining operations adhere to rules on safety in small-scale design and construction of mines.

		<p>17. Tunnel properly timbered, protected and stabilized</p> <p>18. Pit wall stable and without cracks, overhangs, loose material</p> <p>19. Electrical installations and equipment safety installed</p> <p>20. Cords and cables not obstructing access ways</p> <p>21. Passages and walkways kept free from obstructions</p> <p>22. Emergency plan and evacuation procedures available and displayed</p> <p>23. First aid equipment or facilities, trained persons, and emergency transport vehicle available</p> <p>24. With adequate tunnel ventilation system</p> <p>25. PPE available, appropriate, serviceable, correctly stored</p> <p>26. No smoking in enclosed workplaces</p> <p>27. No alcohol and drugs on mine sites</p> <ul style="list-style-type: none"> • Because smaller tunnels or underwater mining does not usually have documented plans of working, it is hard to determine 	
<p><i>Article 10(c). Measures and procedures to establish a recording system of the names and probable location of all persons who are underground.</i></p>	<p>DAO 1997-30 Rule 13 (8) Maintain a logbook which shall be placed on the collar/portal anytime of the day of all workers/miners working underground.</p>	<p>Some of the practices include either</p> <ul style="list-style-type: none"> • Use of logbook • Use of intercom (one of the areas covered) • Buddy system • Payroll checker (one of the areas covered) 	<ul style="list-style-type: none"> • Monitoring and inspection of tunnel operations should include the use of logbook at all times where the name, shift, and location of workers are indicated as required in Rule 13 (8) of DAO 1997-30.

<p><i>Article 13(1)(a) and (2)(f). The right of workers and their representatives to report accidents, dangerous occurrences and hazards to the competent authority and to receive notice of accidents and dangerous occurrences.</i></p>	<p>DAO 1997-30 Rule 3 – For the purpose of any inquiry or inspection related to safety, health and sanitation, the Board or its equivalent shall:</p> <p>a. Require the operator/contractor/permittee during reasonable business hours to produce any work, paper, report and document related to the accident.</p> <p>b. Require the operator/contractor/permittee to present any of his workers/miners to be investigated or examined and be made to sign under oath a declaration from him during the examination.</p> <p>Rule 4 – Monthly report of accident or sickness on Safety form prescribed shall be submitted to the Board or its equivalent, copy furnished the Regional Office concerned and the Department of Labor and Employment, within the first twenty (20) days of the subsequent month.</p> <p>Rule 155 – When workers feel the symptoms of oxygen deficiency such as dizziness, vomiting, fainting, ringing sensation in the ears or presence of toxic or explosives gases, they shall immediately retreat and report such unventilated places to the safety inspector.</p> <p>Rule 162 – Any defect on any part of the fire protection system shall be reported and repaired at once.</p>	<ul style="list-style-type: none"> • Workers claim that they are free to voice concerns to their team leaders/supervisors/ financier. • For those working underground, workers indicate that they take initiatives in keeping a safe workplace and do necessary action when hazard is determined. • No formal procedure of reporting but in all sites, it is claimed that meetings regarding safety and other concerns are conducted from time to time. 	<ul style="list-style-type: none"> • The rights of workers to report accidents, dangerous occurrences and hazards to concerned authorities may also be included in the safety and health trainings required upon registration of miners so that they may be made aware of such rights. • PMRB may establish a system of how reports of accidents, dangerous occurrences and hazards received by concerned offices in LGUs, MGB or DOLE regional offices will be consolidated and harmonized.
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	<p>Rule 166 – Any leak, breakage, or any defect on any part of the fire protection system like the water line, standpipe, fire extinguishers, and the like shall be reported and repaired at once.</p> <p>Rule 312 – Defective welding machine shall be reported immediately to supervisor.</p>		
<i>Article 16. Penalties</i>	<p>DAO 1997-30</p> <p>Rule 318 Any contractor/permittee/operator/worker who violates any of the provisions of this Order or commits any unsafe act that will endanger himself, other persons and/or property shall be penalized by a fine of not less than Php1,000.00 nor more than P10,000.00 or suspension/cancellation of the permit/contract or both upon the discretion of the Board or its equivalent.</p> <p>Rule 319- Any person who willfully obstructs, harasses and/or threatens the Board or its equivalent in the performance of their duties shall be fined or imprisoned upon conviction or both at the discretion of the court.</p>	<ul style="list-style-type: none"> • Two of the practices: PEMO or the Association that applied for the “Minahang Bayan”. • In one of the areas covered, the LGU finds it hard to cease the operations as they cannot monitor it on a daily basis. While in some of the communities, it was admitted that there are operations that are really put on hold because of violation or when permit expires. Also, However, monitoring and penalizing violators remain to be a big challenge 	<ul style="list-style-type: none"> • Enhanced reporting and monitoring system through coordination of LGUs, MGB, and other concerned agencies should be institutionalized. This is one way to ensure that violations are being recorded and are being acted upon.