

**Pre-KAP study on child labour and working
conditions in artisanal small-scale gold mining**

by

Arnie C. Trinidad

Elma P. Laguna

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Abbreviations

ALS	Alternative Learning System
ASGM	Artisanal Small-scale Gold Mining
BSP	Bangko Sentral ng Pilipinas
CCT	Conditional Cash Transfer
CL	Child Labour
DENR	Department of Environment and Natural Resources
DOF	Department of Finance
DOJ	Department of Justice
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
EMB	Environmental Management Bureau
EO	Executive Order
FGD	Focus Group Discussion
GBM	Gravity-Borax Method
HDMF	Home Development Mutual Fund (Pag-IBIG Fund)
ID	Identity Document
ILO	International Labour Organization
IRR	Implementing Rules and Regulations
KAP	Knowledge, Attitude and Practices
LCE	Local Chief Executive
LGU	Local Government Unit
MB	Minahang Bayan
MENRO	Municipal Environment and Natural Resources Officer
MICC	Mining Industry Coordinating Council
MGB	Mines and Geosciences Bureau
NCIP	National Commission on Indigenous Peoples
NGOs	Non-Government Organizations
NPA	New People's Army
P/CMRB	Provincial/City Mining Regulatory Board
PD	Presidential Decree
PENRO	Provincial Environment and Natural Resources Officer
PESO	Public Employment Service Office
PhilHealth	National Health Insurance Corporation
PPPP	Pantawid Pamilya Pilipino Programme
PMRB	Provincial Mining Regulatory Board
RA	Republic Act
SEC	Securities and Exchange Commission
SSS	Social Security System

TESDA	Technical Education and Skills Development Authority
ULAP	Union of Local Authorities of the Philippines
UNICEF	United Nations International Children's Emergency Fund
WC	Working Conditions

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EXECUTIVE SUMMARY

The Pre-KAP study is part of the CARING-Gold Mining Project, which seeks to mobilize stakeholders to address the issues of child labour and poor working conditions in artisanal small-scale gold mining (ASGM) in the municipalities of Labo and Paracale, Camarines Norte and T'boli, South Cotabato.

The overall objective of the CARING-Gold Project is to contribute to: (a) enhancing laws, policies, and action plans to address child labour (CL) and working conditions (WC) in ASGM and ensure their enforcement and/or implementation; (b) improving access of vulnerable households living in ASGM communities to relevant social protection and livelihood programmes; and (c) developing and implementing mechanisms to increase monitoring of child labour and working conditions in gold mining supply chains, particularly ASGM.

The pre-KAP study was conceptualized to feed into the planning of appropriate intervention and advocacy programmes in the three beneficiary municipalities. The study, which involves a survey of household heads in the community and in-depth and key informant interviews with key community stakeholders, seeks to establish a baseline information to enable the International Labour Organization (ILO) and Ban Toxics to: (a) provide evidence after project implementation of its contribution to improve the knowledge, attitudes, and practices of the target groups with regards to child labour and working conditions in ASGM; (b) measuring the level of knowledge, attitude and practices of national and local governments, policy makers, workers and employees' organization, miners, civil society organizations and mining communities; and (c) providing data that will be useful for the development of context appropriate awareness raising and advocacy activities.

The survey research covered a total of 388 household head respondents, with half coming from T'boli, South Cotabato, three in ten coming from Paracale, Camarines Norte and two in ten coming from Labo, Camarines Norte to reflect differences in population in these communities. Most of the respondents are in-migrants (60 per cent), with majority living in the barangay for more than five years (52 per cent) while the remaining are those who have lived in the community since birth (40 per cent). Majority of the migrants moved there to marry someone from the barangay (30 per cent) and to work in ASGM (29 per cent).

Half of all the respondents (50 per cent) have worked in ASGM. Of this number, 54 per cent are still currently involved in ASGM, employed in different capacities as tunnel diggers, gravel, stone or rock haulers, ball mill/back hoe operators, gold panners, among others. (Figure

1). Women respondents are assigned to “lighter” but not necessarily less dangerous work such as gold panning, separating gold from ore using mercury, and manually breaking ore. Majority belong to the casual workforce.

Figure 1. A ball mill machine used to mechanically break the ore. The machine is owned by a family that mines behind their house.



Majority of the respondents have relatives who have worked or are currently working in ASGM and are therefore familiar with issues faced by miners in ASGM.

Respondents who have no engagement in mining work, rely on small businesses like retail or trading, farming, domestic work, construction and others such as teaching and hotel work, among others. Three in ten of these people are unemployed at the time of the interview. Respondents who have no engagement in mining also have a lower average income compared to those in ASGM. This explains why many in the communities prefer to work in ASGM despite the inherent risks.

While the wages of those involved in ASGM are relatively higher, this is not enough to address their poverty. Majority of the respondents from mining and non-mining groups live below the poverty line, showing that mining is not as lucrative as it is assumed. If anything, it reveals the exploitative nature of the work, with majority of the workers being involved in backbreaking and hazardous work.

Work issues: Key findings

Knowledge

- Miners are not aware of their rights as workers. Even if they are, they do not assert their rights.
- Many are not aware of the benefits of the social protection programmes of the government and how this could benefit them.

Attitudes

- The attitude of miners as well as financiers is one of passive and unquestioning acceptance of practices that have been passed down from generation to generation. Employer-employee relationships remain informal in nature, often bound by verbal agreements or by familial ties. Thus, many accept currently existing labour and safety standards and demand little to improve their work conditions.

Practices

- Almost all miners work without contracts across all surveyed areas, particularly those from Camarines Norte where none of the respondents signed a contract at all. Obligations by employers and miners are merely based on verbal agreements. Only a small number of respondents from Cotabato reported having signed a contract, despite the existence of Mining Associations that should already lend a degree of formalization of mining work.
- Because employment is largely informal, with majority of employers being individual financiers or being family members, labour laws and standards pertaining to work hours, regular wages, overtime compensation, compliance to employment benefits, and compliance to safety standards are conveniently disregarded. Work arrangements are largely dictated by traditional practices that have failed to modernize with the times.
- Less than half said they received regular wages as miners; most reported other payment schemes such as shares in the ore and gold haul, which is usually heavily skewed in favour of the financiers.
- Inroads have been made in South Cotabato, in terms of establishing mining associations in connection with the application to the “Minahang Bayan” (MB); however, they have not done enough to promote labour standards pertaining to employer obligations to miners. To their credit, they have had accomplishments in terms of laying down safety standards in mining.
- Given the individual nature of the financing of mining ventures, financiers sometimes run out of funds given their relatively “smaller” capital (i.e. relative to big mining ventures) and given the likelihood of failed mining ventures (i.e. they fail to find gold). This bears down on miners, who are exposed to employment insecurity as a result. When funds dry up or when the ventures fail, mines end up as the biggest losers.
- There is no methodical and efficient exploration of gold deposits, which means that when no gold deposit is found, workers also do not receive wages because for many miners, earnings are based on gold haul, rather than a set wage. This adds up to the insecurity of the situation of miners.
- None of the workers receive medical benefits, save for enrolment with PhilHealth, despite the inherent health and safety risks in mining. Even then, there is no universal enrolment to PhilHealth, with only six in ten miner respondents being enrolled to the programme. Of those enrolled, the government shoulders the majority’s monthly fees, which means there is no or little participation from employers in the payment of PhilHealth. Having medical benefits is important given miners’ exposure to various risks in their line of work otherwise, they will just

rely on the “kindness” of their employers in times of medical emergencies, which they may have to pay back later on anyway. Miners accept this status quo.

Recommendations		
Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Improve knowledge of miners, financiers and mining associations on labour laws particularly those that have to do with wages, benefits, work hours, safety standards, among others. • Increase understanding of what formalization of work entails (e.g. compliance to labour code). 	<ul style="list-style-type: none"> • Attitudes regarding work benefits should be targeted through advocacy messages revolving around the need to critically reconsider traditional labour practices and replace them with practices that comply with labour laws and standards set by the government. • Miners should be guided in gaining appreciation for how social protection schemes can help tide them over financially in times of need. 	<ul style="list-style-type: none"> • Advocate the passage of a national law protecting the rights of ASGM miners as workers like the government did with domestic workers. • Get the local government units (LGUs) to pass counterpart local laws that will promote and protect the welfare of miners and ensure the LGUs commitment to support and implement labour laws protecting the rights of ASGM miners. • Ensure that all mining ventures are in the ambit of mining associations. No individual mining ventures should be allowed as stated in the law because workers are more prone to be abused in such arrangements. • Organize mining associations to comply with and promote fair labour standards. • Mining associations should be held accountable for ensuring compliance to labour and safety standards for miners. • Concerned agencies should establish rational and acceptable standards for wages of miners. • Access to medical insurance should be made available for miners--at the least, they should have universal enrolment to PhilHealth.

Conditions miners face in ASGM: Key findings

Knowledge

- ASGM poses many occupation and community health hazards by the very nature of the industry, which many miners are aware of.
- A fourth of the miners did not know how to protect themselves from work-related risks and injuries.

Attitudes

- While miners are aware of the dangers inherent in the job, this is not enough to create an ethic of safety. Financiers see safety gear as an added expense on their part.
- There is a nonchalant attitude towards safety practices as evinced by the lack of logbooks to monitor the entry and exit of miners especially in tunnels, information on safety and protective behaviours provided by financiers, and organized training on safety procedures. Miners use improvised safety gear especially in Camarines Norte, instead of safety gear that are up to code.
- Because of the informal nature of ASGM, people do not bother to impose strict safety standards.
- LGUs do not strictly enforce safety standards because ASGM miners might lose their livelihood should they impose safety rules stringently.
- Despite dangers, miners continue working in the mines because of its potential “rewards”.

Practices

- A significant number of miners describe their work as dangerous and very dangerous, particularly those working underground and those involved in compressor mining. Miners are exposed to water and mud, extreme heat, dust and fumes. Respondents also said they are exposed to extreme cold, skin infection and insect-borne illnesses and are in danger of accidents, work-related injuries and death.
- There are more miners in Camarines Norte who report not wearing safety gears compared to those in South Cotabato. This can be attributed to the existence of more established mining associations in South Cotabato that ensure the enforcement of safety standards such as the wearing of helmets and boots. However, it is not clear whether the safety gears and standards conform to international safety standards.
- The Provincial Mining Regulatory Board (PMRB) and the LGUs do not have enough manpower to monitor compliance to safety standards in ASGM.

Recommendations		
Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Regular training on safety standards should be conducted to update the knowledge and motivate compliance on the part of financiers and miners. 	<ul style="list-style-type: none"> • A key message that should be delivered to financiers, mining associations and miners is giving greater value to safety standards and developing a culture of safety and risk avoidance. 	<ul style="list-style-type: none"> • The implementation of safety standards rests on the formation of mining associations and the prohibition of individual mining ventures. All mining ventures should be in the ambit of mining associations. With the degree of formalization afforded by

<ul style="list-style-type: none"> • Safety standards that will be taught to miners should conform to acceptable international safety standards in mining. 	<ul style="list-style-type: none"> • Another key message that can be delivered specifically to financiers and mining associations is: “The health and well-being of your worker is your responsibility”. • The attitude of mining inspectors towards the stricter enforcement of safety standards should be addressed through tenacious advocacy. 	<p>mining associations, it will be easier to enforce safety standards to mining work and to hold accountable those not enforcing the standards.</p> <ul style="list-style-type: none"> • Stricter safety standards should be imposed among all workers by mining associations and the government with clear penalties for non-compliant mining associations. • Stricter monitoring of safety practices in the mines should be carried out. The possibility of setting up monitoring committees made up of representatives from the LGU, mining associations and the barangay should be explored to make up for the lack of staff of the PMRB and other agencies to carry out the role.
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Issues faced by those who have never worked for ASGM: Key findings

Knowledge

- A significant number of non-miners are aware of the issues faced by ASGM miners such as low wages, inadequate benefits, non-compliance to labour laws and the dangers faced by miners in ASGM.

Attitudes

- Despite the non-miner respondents’ knowledge of issues faced by ASGM miners and despite their stake in mining issues especially those involving the environment, there is little indication that they are involved in the community dialogue regarding these issues. There is, in other words, general indifference towards issues faced by the industry.

Practices

- The economy of the whole community is dependent on mining. In times of downturns, such as when mining was halted in Camarines Norte by then Department of Environment and Natural Resources (DENR) Secretary Regina Paz Lopez, the rest of the community was also affected. Thus, it is in the interest of the community to be involved in issues concerning ASGM.

Recommendations		
Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> Community-wide information drives to inform the larger community about issues regarding mining, particularly those that affect them (e.g. environmental and health concerns) should be carried out. 	<ul style="list-style-type: none"> Address the people's apathy by mobilizing the community to be more active in mining concerns especially regarding issues that affect them directly such as mercury use. 	<ul style="list-style-type: none"> Mobilize and organize community members in supporting issues faced by miners, particularly environmental issues because they are also affected by whatever goes on in the industry.

Mercury use: Key findings

Knowledge

- There is high awareness among miner and non-miner respondents of the dangers of mercury exposure.
- However, respondents are generally unaware of the symptoms of mercury poisoning. They mostly seek medical help for common illnesses, which might lead to undiagnosed mercury poisoning.
- There is high awareness on the negative effects of mercury on the environment. However, some are still unaware of the impact of mercury on the environment.
- There is little awareness on how to properly dispose of mercury.

Attitude

- Miners persist in using the toxic element because it is the cheapest and most efficient way they know to separate gold from ore. The attitude of miners is one of fatalism to the potential health hazards brought on by exposure to mercury, leaving their fate to chance.
- Miners from Camarines Norte are inclined to use mercury for gold processing given the absence of alternative technologies to separate ore from gold.
- Miners are more concerned about earning money, over the potential long-term effects of mercury poisoning and its effects on the environment.
- Respondents from Camarines Norte said that with persistent poverty, miners will continue resorting to gold retrieval methods that will earn them quick money even if these are dangerous to people and the environment.
- Most people believe it is government's responsibility to regulate mercury use in the community. There is no realization of the need for self-regulation in matters like this.
- Appropriate disposal of mercury is the responsibility of financiers alone according to most respondents, which shows they do not think of this as a shared responsibility of everyone in mining.

Practices

- Half of the miner respondents reported having ever used mercury. Of this number, a little over half said that they have used mercury in the past 12 months despite the legal prohibition imposed by the national government.

- Mercury use is more pronounced in Camarines Norte. 92 per cent of the respondents who said they have handled mercury in the last 12 months are from Camarines Norte. The remaining 8 per cent are from South Cotabato.
- The lower exposure to mercury in South Cotabato has to do with the fact that there are designated technologies and areas where gold is processed.
- Those who have handled mercury have inhaled smoke coming from burning mercury.
- The only recourse miners from Camarines Norte make to protect themselves from mercury poisoning is to use improvised masks (e.g., shirt tied around their face to “protect” themselves from fumes).
- Because ASGM is a backyard industry in Camarines Norte, some mining operations can be found in residential areas. Thus, the use of mercury not only affects miners but community members as well. It affects air quality, contaminates water, and affects fish supply that when ingested by people, result to methyl mercury poisoning.
- While the most affected by exposure to mercury are family members of ASGM especially when gold is processed at home, neighbours are also affected when fumes are carried by the wind around the community. Community members are so used to this that they do not complain about this. This, despite the fact, that eight in ten miner and non-miner respondents are aware of the deleterious effects of mercury exposure.
- ASGM miners dispose mercury improperly by pouring it onto the soil or rivers.
- There are not enough staff of the DENR, Environmental Management Bureau (EMB) and LGUs to inspect mining operations for mercury use, confiscate the illegal substance and suspend the operations of those found to violate this. At an LGU in Camarines Norte, the LGU is doing little to regulate mercury use because it would mean miners will lose their livelihood.
- Some miners have revealed they source mercury from black market gold traders; however, it is not clear if this are the only sources of mercury. In South Cotabato, there are suspicions that LGU officials are also involved in the illegal trade of mercury as they also serve as financiers in the gold mining operations.

Recommendations		
Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Step up information campaigns not only on the damaging effects of mercury exposure to one’s health and the environment but also available alternative technologies to separate gold from ore without the use of mercury. • Conduct information campaigns on the proper disposal of mercury if mercury use cannot be phased out right away. 	<ul style="list-style-type: none"> • Address the issue of fatalism in the use of mercury by emphasizing messages like “their future health status is more important than the temporary financial gains of the present”. • Address the community at large passivity towards the health and environmental effects of the use of mercury in ASGM operations through advocacy messages that underscore everyone’s 	<ul style="list-style-type: none"> • Persuade LGUs and mining associations in Camarines Norte to invest in and adopt technologies that separate gold from ore that can be used by ASGM miners in common like they do in South Cotabato. • Organize the community to demand LGUs to strictly implement the laws against the use of mercury.

<ul style="list-style-type: none"> • Conduct information drives on the symptoms of mercury poisoning. 	<p>stake in stopping the use of mercury in ASGM.</p> <ul style="list-style-type: none"> • Include in the advocacy campaign the need for community members to realize that the proper disposal of mercury is everyone's interest and not just miners and the government and that environmental degradation can compromise the survival of the community. • People rely on government to impose laws against mercury use, however, what should be developed through advocacy campaigns is the attitude of self-regulation. 	<ul style="list-style-type: none"> • Tap the barangay in monitoring and reporting the use and improper disposal of mercury and strengthen the capacity of the LGU to deal with violators. • Get LGUs to adopt and invest on mercury disposal technologies and techniques. • Come up with a multiple pronged approach involving addressing the following: poverty, the attitudes of people, the lack of state-of-the-art mining technologies to separate gold from ore, and the lack of technologies to properly dispose mercury.
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Health condition and health seeking behaviours: Key findings

Knowledge

- Half of the respondents said they were of fair health. Only one in ten said their health was in poor condition.
- Miners are not aware of the symptoms of mercury poisoning.

Attitudes

- Primarily because of the lack of financial resources, people opt not to seek medical treatment from hospitals because of the expense it entails.
- Community members do not see the need to have themselves checked for mercury poisoning, until they exhibit serious symptoms. They hold a fatalistic attitude towards mercury poisoning.

Practices

- Some respondents have exhibited symptoms of mercury poisoning such as muscle weakness, muscle pain, tingling of the hands and feet, headache, among others. However, because of the absence of mercury poisoning testing in the community health facilities, there is no way to know their real condition.
- Most visit health centres that are run by para-health professionals or community nurses for their health concerns, followed by hospitals.
- Most respondents paid for their own healthcare. Although a significant number of respondents have PhilHealth coverage, its coverage is limited to inpatient bills and does not cover medical consultation or the purchase of medicines.
- When the household head is sick, the family relies on the spouse's work, children's work and loans for their daily needs.

- One in four miner respondents said they were injured at work. Seven in ten sought medical treatment, with the health centre as the predominant source of medical treatment. Close to three in ten respondents sought the help of traditional healers for injuries.
- Despite illnesses and injuries, most miners continue to work.

Recommendations		
Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • There is a need to increase people's knowledge on mercury poisoning and symptoms of mercury poisoning. 	<ul style="list-style-type: none"> • There is a need to improve the health seeking attitudes and behaviours of miners and community members. However, this should come along improvements in access to healthcare (i.e. healthcare facilities, availability of mercury poisoning testing, among others). 	<ul style="list-style-type: none"> • Mercury poisoning testing should be made available in community hospitals and health centres that anyone suspected of having mercury poisoning can access. • Establish a referral system that would enable the referral of possible mercury poisoning patients to hospitals equipped with testing kits and treatment facilities. • There should be a referral mechanism to enable those who have tested positive for mercury poisoning to seek treatment in hospitals that can adequately treat this.

Access to social protection mechanisms: Key findings

Knowledge

- There is little knowledge on the benefits that can be received from enrolment with Social Security System (SSS) and Pag-IBIG.
- Some respondents have knowledge of alternative livelihoods because of livelihood training they received.

Attitudes

- Some respondents have expressed disappointment over how the conditional cash transfer (CCT) beneficiaries were chosen by the LGUs, which they say was influenced by local politics, especially in Camarines Norte.
- Mining is still seen as more lucrative than any other enterprises.
- There is an absence of entrepreneurial spirit among those taking out loans. None mentioned loans were made for business purposes, which shows setting up businesses is not the priority of respondents, even if some of them have already been given livelihood training.
- There is little interest to enroll in SSS or Pag-IBIG because many respondents are unaware of the benefits they can receive from these government programmes.

Practices

- While the average family incomes of most respondents fall below the poverty threshold, only three in ten respondents are enrolled in the Department of Social Welfare and Development (DSWD’s) CCT Programme. Those enrolled in the programme describe the programme as being very useful.
- Social protection schemes such as SSS and Pag-IBIG have low enrolment rates despite the fact these are important social protection mechanisms (aside from PhilHealth) that can be used as a fall back in times of need.
- Families rely on loans to sustain their needs, the most common sources of which are lending companies/microfinance companies and relatives and neighbours. Other sources of loans for miner respondents are gold traders. The loans come with interest anywhere between 0.5 to 30 per cent. Few people reported getting financial support from the LGU.
- Common uses of loans were for daily needs, education of children, medical needs of family members and construction/repair of houses. Loans are not used as capital for the set-up of family owned enterprises, which indicates that the objectives of the livelihood trainings are not being met.
- Livelihood training in cooking, welding, dressmaking, caregiving and electronics have been provided to some community members. However, some respondents have pointed out that without capital or business opportunities in the community, the livelihood is not translated to actual business enterprises by the training recipients. Respondents who did not continue with livelihood endeavours said they were too busy tending to their family or they have other interests.
- More women took out loans than men, which means women are in control of the family finances.
- When ASGM was closed by then DENR Secretary Lopez, many miners did not have any other fall back for their livelihood.

Recommendations		
Knowledge	Attitudes	Behaviours
<ul style="list-style-type: none"> • Efforts should be stepped up to inform the community members about social protection facilities available to them and the benefits they get from them. 	<ul style="list-style-type: none"> • Changing the mindset of miners to explore other means of livelihood will only succeed if opportunities are made available and they are convinced of the lucrateness of the new enterprise compared to their present work. • Convincing household heads to take out loans for business purposes and equipping them with the skills to set up a successful livelihood enterprise for the family should also be in the agenda. 	<ul style="list-style-type: none"> • When livelihood training is given capital should be provided and full assistance to ensure success of the business venture. • For non-business livelihood training, job opportunities should also be made available to enable recipients to find work they can use their newly learned skills for. • There should be universal enrolment to SSS and Pag-IBIG as these serve as reliable social protection mechanisms for the families.

Child labour issues: Key findings

Knowledge

- There is high awareness of the laws banning children from working in the mines.

Attitudes

- There is consensus that only adults should be allowed to work in ASGM and that children, including those who are already 15-17 years old, should not be working in the mines.
- Since many mining community members have been raised in an industry where children working in the mines is accepted and where they themselves may have worked in the industry as young children, some consider it normal to have their children participate in mining activities. This is also true because mining is mostly a family backyard industry, where family members freely participate in “family activities”. The law prohibiting children working in ASGM thus, contravenes traditional practice.
- Older children are mostly treated like their adult counterparts in mining with adolescent children being given the same difficulty of work as adults especially in Camarines Norte.
- The decision to work in ASGM is prompted by children’s practical considerations: the desire to help their parents and the perceived lucrativeness of mining.
- Children find mining more worthwhile than going to school because the returns are immediately felt by the family. With education, benefits cannot be seen nor felt until much later.
- It is a source of pride for children to work for the benefit of their family.
- Most respondents think that parents are responsible for deciding whether a child can work in ASGM or not.
- Some children who work in the mines want to return to school, while some do not. Some work in ASGM so they can save money to pursue their education later.
- Most respondents consider the municipal government as principally responsible for stopping child labour in the community. Parents, barangay officials and the national government were also mentioned as responsible for the implementation of the law.

Practices

- Close to half of the respondents admitted there are children working in ASGM despite child labour laws.
- In South Cotabato, an ordinance was passed banning children from working in ASGM, which has reduced the number of children working in ASGM. The setting up of mining associations that requires a master list of all workers has also contributed to the reduction of child labourers in ASGM. However, some still get away using fake identification cards or some children work at home to escape scrutiny.
- In Camarines Norte, children are exposed to the same hazardous conditions as adults when they engage in gold panning, hauling of rocks and soil, and processing of ores using mercury. There is no set time as to the work of children because of the informal and unstructured nature of work. Often, the work hours of children are the same as adults.
- Participation in ASGM gives them access to income they will never earn elsewhere.
- Some community members do not stop children from participating in ASGM because this could be the only source of income for the family.

- Problems in the ability of the government to implement laws also gets in the way of stopping child labour in the mines. First, there is limited staff to monitor ASGM activities and second, parents themselves are uncooperative as they deny the age of the child or they hide the children at the sight of inspectors from the LGU and the barangay.
- In one community, LGU officials (including barangay) turn a blind eye on the problem because there are no viable economic alternatives for mining families. Thus, there is no intent to regulate the industry.
- There is a mixed report regarding the amount of wage children are paid. Some say they receive the same wages as adults, but in focus group discussions (FGDs) with children they said they were paid less than adults. They are also prone to be defrauded by adult workers.
- Three in ten respondents said children who work in ASGM stop from school, especially those who work full-time in ASGM. Other reasons include: there is no high school in their area or they are more interested to earn money for their family. There is a slightly higher number of children who continue with their education despite working in ASGM. Some access education through Alternative Learning System (ALS).
- Those who stopped are planning to pursue their education at some point, when they have saved enough money. There is no saying, however, if they can save enough to continue their education.

Recommendations		
Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • People need more information on child labour and child protection. 	<ul style="list-style-type: none"> • Messages addressing the issue of child labour such as: “Your child does not need to work in the mines like you did”; “Mining is not for children, regardless of age”; “Mercury can have lasting effects on your children’s health and well-being”; “Children should be learning and playing, not working in the mines”; and “The place of children is in school and not in the mines” can be delivered. • For children, key messages should be: “You have a better chance of bailing your family out of poverty if you finish school”; “Mining gives you temporary rewards, while education will give you more lasting rewards,” and “A child’s place is in school, not in the mines”. 	<ul style="list-style-type: none"> • Banning of individual mining ventures (done by families), will contribute to solving child labour. • Stricter examining of identification cards of workers specially those who are suspected of being minors should be imposed. • Passage of local ordinances in Camarines Norte banning children from mining work to ensure the community’s commitment against child labour. • Self-regulation should be done by mining associations to ensure children are not made to work in the mines. • Greater cooperation between the municipal government, barangays, parents and mining associations in monitoring child labourers in the

		<p>community should be encouraged.</p> <ul style="list-style-type: none"> • Assistance should be given for children who want to go back to school, whether this be through the formal education system or through ALS. • Skills training should be provided to older children, however, the skills to be developed should be responsive to the employment needs of the community.
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Formalization of the industry: Key findings

Knowledge

- Miners from Camarines Norte do not know the benefits of mining associations and MB.
- 45 per cent of respondents reported that their community had applied to be considered as a MB. The rest do not know the status of their community’s application.
- Three in ten respondents in South Cotabato said their community had been declared as MB. However, no such declaration has been made according to the Mines and Geosciences Bureau (MGB). The DENR has not yet formally released the declaration of MB of T’boli, South Cotabato. Only five areas all over the country have been successfully declared as MB. The rest of the applications are still pending with the DENR.
- A few miners have correctly enumerated the benefits of the MB:
 - It will make ASGM mining legal.
 - Miners will be forced to pay taxes.
 - Miners will have an identity document (ID) for easier identification of workers, which will also potentially suppress child labour.
 - Guidelines and processes in the care of the environment will be set in place.
 - New gold processing methods can be introduced and can result in the elimination of the use of mercury.
 - Operations will be systematic.
 - No miner will be incarcerated for illegal mining.

Attitude

- There is some resistance to the legal requirement to form mining associations and to apply for the declaration of the community as a MB. A respondent from Camarines Norte said that only small-scale mining associations, funded by financiers should be required to form mining associations. He thinks this should not apply to “kamote miners” like them who operate “backyard” mining ventures. Thus, there is an attitude that this is just another layer of bureaucracy imposed by the government that will get in the way of their livelihood.
- Five in ten respondents think LGUs are doing enough to address the issues faced by miners and that it is better for the government to manage the local mining industry.

Practices

- The closure order in Camarines Norte forced miners to comply with the requirement of forming miner's associations and to file their MB application as a response to the closure order of then DENR Secretary Lopez.
- With the closure order issued by the DENR, an LGU in Camarines Norte ordered crackdowns in ASGM mining sites, which led to the incarceration and imposition of fines to some miners. The closure order drastically reduced illegal mining, but also forced miners out of their livelihood.
- In Camarines Norte, another LGU was not as strict in implementing rules against ASGM. Driven by pity and practicality, the Local Chief Executive of Labo said that he has not stopped miners because mining is their principal source of income.
- At the time of the research, the MB application of mining associations in Camarines Norte was still being processed. The application for small-scale mining permits is faced with considerable hurdles due to land issues given the numerous claimants of the lands, which the Provincial/City Mining Regulatory Board (P/CMRB) is tasked to resolve. This will definitely delay the issuance of mining permits in the two areas covered by the research in Camarines Norte.
- ASGM in T'boli is fairly organized what with its mining associations taking the lead in the mining operations.
 - MGB has allotted 120 hectares for small-scale mining in Barangays Kematu and Desawo. Each applicant is only allowed 20 hectares for their operations.
 - Mining associations have imposed rules in the operations of ASGM in cooperation with key government offices. All miners are now required to be registered and all operators apply for clearances from the municipal LGU.
 - An ID system was also set in place by the PMRB to eliminate the recruitment of under age workers and to identify and set a headcount of all miners engaged in mining. However, this is not a fool proof system as child labourers have been documented to continue working in ASGM, especially in the mining areas.
 - Safety regulations have been set in place with regards to safety gear.
 - Developments have also been observed in terms of work shifts where workers are now just required to work for eight hours.
- Most do not know the reason why their communities have not been declared as MB. Other reasons given were because of opposition from the people in the community, they fear that this will lead to destruction of environment and will affect the health of the people, miners are not united, or that the application process is still on-going.

Recommendations		
Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Information drive should be carried out to increase people’s awareness on how they and the community can benefit from the formation of mining associations and the MB. • The capacity of mining associations should be developed to effectively address work, safety, environmental, child labour and other mining related issues. 	<ul style="list-style-type: none"> • Miners from Camarines Norte will have a better appreciation of the MB if they see how it works. Learning visits should be made available to mining association leaders in functional MBs to enable them to appreciate its benefits and to learn how they can improve labour conditions in their own communities. 	<ul style="list-style-type: none"> • Advocacy should be carried out with the national government and the PCMRB to speed up the resolution of issues pertaining to the issuance of status of MB. • Help mining associations become functional to ensure they are able to perform their roles in protecting workers’ rights, prevention of child labour, protection of the environment, among others. • Explore possibilities of how mining associations can assist in the full implementation of environmental protection laws.

1. INTRODUCTION

Artisanal small-scale mining is defined by law as operating using “artisanal methods” (e.g. cast or shallow underground mining), relies on “manual labour,” does not utilize “sophisticated mining equipment” (i.e. excavators, loaders, backhoes, bulldozers, drilling machines and/or related or similar equipment for the extraction and/or breakage of materials)¹ and generates not more than “50,000 metric tons of ore”² a year. However, the equipment used in small-scale mining has differentiated over the years that now range from “basic panning activities” to more advanced methods using hydraulics and tunneling operations and with artisanal mining persisting alongside more mechanized medium-scale operations³.

There are companies with small-scale mining permits that use heavy equipment such as small-scale miners in Camarines Norte who admitted to using explosives and heavy equipment in their operations⁴. Despite the advances, ASGM is still regarded as small, which is really a symptom of how little control government has over the industry.

¹Verbrugge, Boris. 2016. “Formalizing Artisanal and Small-Scale Mining: Whither the Workforce?” Resources Policy. 47(3);134-141. Available html

https://www.researchgate.net/publication/292949678_Formalizing_artisanal_and_small-scale_mining_Whither_the_workforce.

²Marcos, Ferdinand Edralin. 1984. “Presidential Decree No. 1899: Establishing Small-Scale Mining as a New Dimension in Mineral Development” .

³Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation.” *Journal of Rural Studies*. 47:108-116 · August 2016.

⁴Cabuenas, Jan Viktor. 2016. “Lopez stops all small-scale mining operations outside ‘Minahang Bayan’”. *GMA News*. 9 August. Available html <http://www.gmanetwork.com/news/story/576867/money/economy/lopez-stops-all-small-scale-mining-operations-outside-minahang-bayan>

With the gradual involvement of a heterogeneous group of financiers, what started out with rudimentary artisanal mining activities has gradually evolved into a sector characterized by: (a) rising degrees of heterogeneity; (b) with a growing differentiation between a class of ASGM-entrepreneurs and a massive workforce; and (c) a multi-tiered division of labour and complex arrangements for the distribution of risks and benefits across the sector's diverse participants (Verbrugge, 2015a).

While gold mining has existed in the Philippines for centuries, it was only in the latter part of the Marcos Administration that the government attempted to officially support the development of ASGM⁵.

The recognition of ASGM by the government was a response to the worldwide gold crisis that led to the closure of 14 large- and medium-scale mining corporations in the country⁶. The collapse of the large-scale mining industry in the country was precipitated by the global plunge of gold prices (from a high of US\$1,000/troy oz in the late 1970s to US\$284/troy oz by 1985)⁷, increases in the prices of oil and fuel, and the high costs of maintaining large-scale mining operations⁸.

As “political and economic upheavals” raged from 1980s to the 1990s, a lot of Filipinos especially in rural communities were pushed into grinding poverty⁹. Rural communities were affected by scarce economic opportunities and uneven socio-economic structures brought on by the landed elite's monopoly of ownership of agricultural lands, problems in agricultural production affected by environmental disasters, unstable markets, absence of farm to market roads and armed conflict¹⁰. ASGM became a viable source of livelihood for a number of rural communities from the north to the south. According to Boris Verbrugge who did his PhD on small-scale mining in the Philippines, pervasive crises in rural economies served as a “key factor underlying the expansion” of small-scale gold mining¹¹. ASGM became an alternative means not only to earn for the subsistence needs of the poor, but in some cases enabled them to achieve upward social mobility for those who struck it big in the mines¹².

⁵Philippine Rural Reconstruction Movement. No Date. “Historical Sketch of the Mining Industry.” Available html <http://www.prrm.org/publications/gmo2/historical.htm>

⁶Philippine Rural Reconstruction Movement. No Date. “Historical Sketch of the Mining Industry.” Available html <http://www.prrm.org/publications/gmo2/historical.htm>

⁷Philippine Rural Reconstruction Movement. No Date. “State of the Mining Industry”. Available html <http://www.prrm.org/publications/gmo2/state.htm>

⁸Presidential Decree 1899, circa 1984. Establishing small-scale mining as a new dimension in mineral development. Available html <http://www.gov.ph/1984/01/23/presidential-decree-no-1899-s-1984/>

⁹Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation.” *Journal of Rural Studies*. 47:108-116 • August 2016.

¹⁰Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation.” *Journal of Rural Studies*. August.47:108-116.

¹¹Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation.” *Journal of Rural Studies*. August. 47:108-116.

¹²Ibid.

The release of Presidential Decree (PD) No. 1899 of 1984 was government's initial attempt to regulate small-scale mining operations through the issuance of mining licenses and permits and to serve as a strategy to increase employment in rural communities and generate additional foreign exchange earnings.

Thirty years after the PD was released, small-scale mining is anything but small. ASGM gold production has grown exponentially over the years. In fact, ASGM provides “as much as 80 per cent of the Philippines’ annual gold production” and “directly employs around half a million people and indirectly benefits two million people in remote rural communities”¹³. Mining expert Deogracias Contreras describes the small-scale mining industry as a “hidden and huge money-making activity rationalized and justified by employing the populist term ‘small and poor’ to hide the true nature of the silent business from northern, southern and Mindanao regions of the Philippines”¹⁴. The epithet “small” stuck because it still employs relatively cheaper operations that relies “heavily on manual labour using simple implements and methods” and involves small time mining cooperatives or associations¹⁵. In contrast, large-scale mining operations involve “the mobilization of substantial capital, heavy equipment, high technology and a much bigger workforce”¹⁶. However, Verbrugge describes the situation in ASGM as having “heterogeneous” where some mining communities already use explosives and heavy equipment that run counter to the definition of small-scale mining¹⁷.

Because of the informal nature of the industry and its now complex and unwieldy structure, ASGM has spawned numerous problems such as land grabbing, land ownership and claimant problems, lack of access to credit,¹⁸ labour exploitation including poor working conditions, child labour and environmental degradation, among others.

¹³Ban Toxics. 2017. “BAN Toxics, ILO call for an end to Child Labour in Small-Scale Mining.” 12 January. Available html <http://news.pia.gov.ph/article/view/1141483794826/ban-toxics-ilo-call-for-an-end-to-child-labour-in-small-scale-mining>

¹⁴Gamboa, Rey. 2017. “A Reader’s View of Small-Scale Mining.” Discussion of a letter from reader, Deo Contreras. 21 March. Available html <http://www.philstar.com/business/2017/03/21/1682996/readers-view-small-scale-mining>.

¹⁵Philippine Rural Reconstruction Movement. No Date. Brief Definition of Basic Mining Terms. Available html <http://www.prrm.org/publications/gmo2/annex1.htm>.

¹⁶Philippine Rural Reconstruction Movement. No Date. Brief Definition of Basic Mining Terms. Available html <http://www.prrm.org/publications/gmo2/annex1.htm>

¹⁷Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation.” *Journal of Rural Studies*. August.47:108-116.

¹⁸In an article in the *Business Mirror* “Demand for microfinance loans continues to expand in Philippines, BSP says,” published on 22 May 2015, only 3.7M low income Filipinos have accessed microfinance credit from rural and thrift banks and NGOs. The available loan portfolios are not enough to respond to the demand. The United Nations Industrial Development Organization also published in October 2017 a Rapid Assessment of Gold and Financial Flows Linked to Artisanal Small-Scale Gold Mining entitled “Follow the Money: The Philippines”. In the research, it was mentioned that the informality of the industry renders it difficult for miners to have access to legitimate forms of credit.

1.1 Objectives of the study

The Pre-KAP study is part of the ILO CARING-Gold Mining Project and Ban Toxics, which will mobilize stakeholders to address the issues of child labour and poor working conditions in ASGM in the municipalities of Labo and Paracale, Camarines Norte and T'boli, South Cotabato. The Project aims to:

- a) Enhance laws, policies and action plans to address child labour and working conditions in ASGM and ensure their enforcement and/or implementation.
- b) Improve access of vulnerable households living in ASGM communities to relevant social protection and livelihood programmes.
- c) Develop and implement mechanisms to increase monitoring of child labour and working conditions in gold mining supply chains, particularly ASGM.

The Pre-KAP study will be conducted prior to the implementation of the intervention and advocacy programmes in the three beneficiary municipalities. The study has the following objectives:

- a) Provide evidence of the project's contribution to improve the knowledge, attitudes and practices of the target groups with regards to child labour and working conditions in ASGM.
- b) Measure the level of knowledge, attitudes and practices of national and local governments, policy makers, workers' and employer's organizations, media, miners, civil society organizations and mining communities.
- c) Provide data that will be useful for the development of context appropriate awareness raising and advocacy activities.

1.2 Data collection instruments

The KAP study will use a mix of quantitative and qualitative methodologies:

1.2.1 Review of related literature. A review of primary and secondary sources on child labour and working conditions in ASGM was carried out.

1.2.2 Survey/sampling methods. Structured survey questionnaires were administered to household heads in the three mining communities for municipalities and barangays included in the research project (Table 1). Household heads were chosen as the chief respondents of the survey because major decisions are usually made by them in most Filipino families. As chief decision makers, they are the main breadwinners of the family; they exercise control and influence over household affairs including the decision to enroll or participate in community social welfare programmes, they are the ones who are contacted by government and non-government organizations (NGOs) for possible enrollment in community programmes and they are also potentially aware of goings on in the community. The questions were designed to enable ILO to conduct a post-KAP survey to measure changes in the KAP of the respondents at the end of the CARING Gold Project.

The survey employed cluster sampling where the population was divided into clusters of households. Under each cluster are ten households.

Using this method, mining and non-mining households had an equal chance of being selected as respondents to reflect the proportion of mining and non-mining households in these communities.

At 95 per cent confidence level and with a margin of error of 5 per cent, 369 households will be sampled for the study. The total household population of the selected barangays is 8,336. If the total population is 10,000 or greater, a sample size of 384 is required to get a 95 per cent confidence interval and a 5 per cent margin of error. But since the total household population is less than 10,000, the formula used for the computation of the sample size is based on the following:

$$n_f = \frac{n}{1+n/N}$$

where n_f is the desired sample size when $N < 10,000$
 n is the sample size when $N \geq 10,000$
 N is the total population size

Table 1. Computation of number of households to be surveyed*

Barangay	Population	Household Population	Household Proportion	Household Proportion Cluster/ Clusters to be surveyed	Households to be surveyed
<i>Paracale, Camarines Norte</i>					
Casalugna	987	197	0.02367929	1	9
Gamaus	3,313	663	0.07948275	3	29
Tawig	3,505	701	0.08408906	3	31
Tugos	5,288	1,058	0.12686531	5	47
	13,093	2,619		12	116
<i>Labo, Camarines Norte</i>					
Dalas	4,519	904	0.1084161	4	40
Masalong	2,661	532	0.06384051	2	24
Malaya	1,273	255	0.03054076	1	11
	8,453	1,691		8	75
<i>T'boli, South Cotabato</i>					
Edwards	3,407	681	0.08173792	3	30
Kematu	6,782	1,356	0.16270812	6	60
Desawo	1,799	360	0.04316012	2	16
Poblacion	8,148	1,630	0.19548006	7	72
	20,136	4,027		18	178
Total	41,682	8,336	1	37	369

*Population based on 2010 Census of Population and Housing¹⁹.

¹⁹Philippine Statistics Authority. 2010. Census of Population and Housing. Available html <https://psa.gov.ph/sites/default/files/attachments/hsd/pressrelease/Bicol.pdf>

Thus, the total number of households to be surveyed was adjusted to 369 households. However, an additional of 5 per cent was added to the sample to account for possible attrition rate (loss to follow-up, the household moved, among others). This brings the total sample to 387.

The number of households to be surveyed per barangay is proportionately distributed according to the population size.

Field supervisors determined the different clusters of households that were covered in the survey. They randomly selected the cluster from which the team will start the data collection. In each cluster, the first household was randomly selected. The survey team then continued to the next household until the required number of households was completed. If the cluster did not yield the required number of sample households, the team moved to the next cluster.

Local enumerators who have the knowledge of the community and know the local language/dialect were employed to conduct the interviews and record the responses.

1.2.3 Interviews and FGDs. To gain a better understanding of the subject of the research, interviews and FGDs were held with various subjects to tease out issues that the quantitative data will not be able to capture. Interviews and FGDs were conducted with national government officials from DENR, MGB, Department of Labor and Employment (DOLE), workers' and employer's organizations, LGU officials such as LCEs, barangay officials, among others, miners, miner's association members and children were conducted.

1.3 Limitations of the study

Although the study met its aims, it has encountered some unavoidable limitations:

- a) Instead of stratified random sampling which would have resulted to a more precise and representative sample, cluster sampling was used. Challenges and limitations related to budgetary and timeframe constraints and difficulties in obtaining a copy of a list of households in the surveyed barangays that can serve as a sampling frame became the major considerations in using cluster sampling over stratified random sampling.
- b) While the survey of child labourers would have been ideal to get a statistical understanding of the phenomenon in ASGM, time and budgetary constraints, the inconspicuousness of child labourers given that child labour is illegal and hidden by the community, and the lack of reliable figures on the actual numbers of child labourers has stopped the researchers from undertaking a statistical research on child labourers. Thus, the researchers had to resort to FGDs with children that the barangays helped the team identify. Thus, results on the child labour portion of the research cannot be considered generalizable to the experiences of child labourers in ASGM. Instead, they should be regarded as representing the experiences of a segment of child labourers in the communities included in the research.

2. REVIEW OF RELATED LITERATURE

2.1 Attempts at regulating ASGM

Realizing the potential of small-scale mining to earn needed revenues for the country and its negative impact on the environment, the Corason Aquino Government (henceforth referred to as the Aquino I Government) tried to strengthen the regulation of ASGM. If the provincial government had blanket authority over mining in the communities as the Governor had the unilateral authority to approve and grant small-scale mining permits to ASM operators based on PD 1899²⁰, Republic Act (RA) No. 7076, which was passed in June 1991, systematized, rationalized and created a stricter environment for the “small-scale development and utilization of mineral resources” in order to address the “social, economic, technical and environmental problems connected with small-scale mining activities”²¹. The Law created a Regulatory Board to oversee ASGM, placing more “stringent requirements for ASM-operators” and enabling the national government to have a say in the establishment and monitoring of ASGM in gold rush mining communities as well as taxing its operations.

With the passage of RA 7076, the authority to manage ASGM was vested on P/CMRBs, composed of representatives from the DENR (usually the Regional Executive Director of the MGB that is under the auspices of the DENR or any DENR representative) who will serve as the Chairman of the Board. The Regional Director serves as the national government’s link to mining in the local communities. Other members of the PMRB include appointed representatives from the Office of the Governor or City/Municipal Mayor, small-scale miners, large-scale miners, environmental non-government organizations (NGOs) and staff support from the MGB that serves as the Board’s Technical Secretariat²². In 2009, the DENR Provincial Environment and Natural Resources Officer (PENRO) was added as a member of the PMRB²³.

The PMRB was granted the authority to designate ‘people’s small-scale mining areas’ or Minahang Bayan²⁴, which serves as the centralized programme for processing of minerals within a specific area. Unfortunately, labour concerns are not explicitly represented in the Regulatory Board since the regional offices of the DOLE nor the Public Employment Service Office (PESO) are not represented in the Regulatory Board. However, the presence of the DOLE or the PESO serves as an unfortunate omission since labour standards and concerns such as the safety and health of workers are among the things demanded from MB applicants.

In 2012, then President Benigno S. Aquino III released Executive Order (EO) No. 79 in order to strengthen the regulation of the mining industry, including small-scale mining. The EO directs all small-scale mining operations to be undertaken only within declared Small-Scale Mining

²⁰Alave, Kristine L. 2011. “Government to Clip LGUs’ Power to Grant Mining Permits”. *Philippine Daily Inquirer*. 26 August. Available html <http://newsinfo.inquirer.net/47899/gov%E2%80%99t-to-clip-lgus%E2%80%99-power-to-grant-mining-permits>

²¹Republic Act No. 7076. People’s Small-scale Mining Act of 1991.

²²Department of Environment and Natural Resources (DENR) Administrative Order No. 34. “Rules and Regulations to Implement Republic Act No. 7076 Otherwise Known as ‘Peoples Small-Scale Mining Act of 1991’”.

²³PMRB Journal. No Date. Powerpoint Presentation. Available html <http://denr-mgb1.org/pdf/PMRB%20Journal.pdf>

²⁴Verbrugge, Boris. 2016. “Formalizing Artisanal and Small-Scale Mining: Whither the Workforce?” *Resources Policy*. 47(3);134-141. Available html https://www.researchgate.net/publication/292949678_Formalizing_artisanal_and_small-scale_mining_Whither_the_workforce

Areas or “Minahang Bayan” and calls for the training and capacity building measures for small-scale mining cooperatives and associations by concerned government agencies.

To establish the MB, small-scale miners must be organized into cooperatives that have the technical capability and financial resources to observe structural and taxation requirements of the concession area.²⁵ Applications are made with the P/CMRB;²⁶ however, the Environment Secretary has the final say in the approval of the concession.

In effect, the law and its accompanying Implementing Rules and Regulations (IRR) diffused the authority to include the DENR and other key stakeholders in the community. Through the MGB Regional Director, the DENR directly supervises and controls of the programme and activities of the small-scale miners within the people's small-scale mining area²⁷. However, with the composition of the PMRB, community stakeholders share the authority in overseeing small-scale mining with the national government. This is reflective of the stipulations of RA 7160 or the Local Government Code that devolved among others the supervision of small-scale mining to LGUs²⁸. Thus, it can be said that there is co-management of the small-scale mining industry between the DENR/MGB and the LGU as “LGUs have the duty and authority to protect and co-manage the environment and enhance the right of the people to a balanced ecology” and to benefit economically from mining in their localities²⁹ but subject to the policies, standards and guidelines of the DENR.

By law, the P/CMRB has been vested considerable power over ASGM. For instance, it has the authority to demand the following from contractors who have been awarded mining rights³⁰.

- Compliance with mining plan approved by the PMRB.
- Observance of safety rules and regulations promulgated by the DENR.
- Payment of fees, taxes, royalties or government production share as provided by the law.
- Compliance with pertinent rules and regulations on environmental protection and conservation, particularly those on tree cutting, mineral processing and pollution control such the protection of the surrounding environment of small-scale mining areas and proper disposal of tailings and wastes.
- Assumption of responsibility for the safety of persons working in the mines.
- Provision of facilities that will ensure the safety and health of small-scale miners (i.e. sanitation facilities, safe drinking water).
- Compliance to DENR regulations related to the use of mercury, cyanide or any other poisonous substance.

²⁵Valencia, Czeriza. 2015. “DENR now Accepting ‘Minahang Bayan’ Applications”. 13 April. *Philippine Star*. Available html <http://www.philstar.com/business/2015/04/13/1443067/denr-now-accepting-minahang-bayan-applications>

²⁶Department of Environment and Natural Resources. 2015. Administrative Order 2015-03. “Revised Implementing Rules and Regulations of Republic Act No. 7076, otherwise known as the ‘People’s Small-Scale Mining Act of 1991’”. Available html <http://www.mgb.gov.ph/images/stories/DAO2015-03.pdf>

²⁷Department of Environment and Natural Resources (DENR) Administrative Order No. 34. “Rules and Regulations to Implement Republic Act No. 7076 Otherwise Known as ‘Peoples Small-Scale Mining Act of 1991’”.

²⁸ Republic Act 7160. Local Government Code of the Philippines.

²⁹Aquino, Benigno III S. 2012. Executive Order No. 79. Institutionalizing and implementing reforms in the Philippine mining sector providing policies and guidelines to ensure environmental protection and responsible mining in the utilization of mineral resources. 6 July.

³⁰Department of Environment and Natural Resources (DENR) Administrative Order No. 34. “Rules and Regulations to Implement Republic Act No. 7076 Otherwise Known as ‘Peoples Small-Scale Mining Act of 1991’”.

- Notification the Board of all accidents causing either death or lost working time.
- Compliance with all environmental laws, especially with respect to water quality, water course diversion, excess siltation and undue interference with existing agricultural fishing or other legitimate land and water usage.

The EO also paved the way for the creation of the Mining Industry Coordinating Council (MICC), co-chaired by the Department of Finance (DoF), DENR and whose members include the Secretary of the Department of Justice (DOJ), Chairperson of the National Commission on Indigenous Peoples (NCIP), and the President of the Union of Local Authorities of the Philippines (ULAP), which counts as its tasks the following:

- Ensure continuing dialogue and coordination among all stakeholders in the industry.
- Conduct and facilitate the necessary capacity and institutional building programmes for all concerned government agencies and instrumentalities.
- Conduct an assessment and review of all mining-related laws, rules and regulations, issuances and agreements with the view to formulating recommendations to improve the allocation of revenues and risk between the government and the mining sector, to enhance coordination between the national government and LGUs to ensure implementation of mining laws and regulations, and to properly regulate small-scale mining participants and ensure that they are accountable to the same environmental and social obligations as large-scale mining companies.
- As may be directed by the President, constitute and create a Task Force against Illegal Mining and seek the assistance of all law enforcement agencies to ensure strict compliance with relevant laws, rules and regulations.
- Serve as the Oversight Committee over the operations of P/CMRBs.

2.2 Challenges in the implementation of the small-scale mining laws

While stringent laws have been set in place to regulate ASGM, the problem lies with the ineffective or lack of implementation of mining laws by the government because of its limited capacity to enforce laws. Added to this are “operational inefficiencies, preventable environmental and social costs and the illegal operation of most mining sites³¹. In this section, we discuss some of the snags that have been encountered in the implementation of laws relevant to small-scale mining:

2.2.1 ASGM operations outside the minahang bayan. According to a Philippine Star article, small-scale mining can be found in 40 mineral-rich provinces nationwide, majority of which can be found outside the MB³². Currently, there are five legally operating MB: Banay-banay, Davao Oriental; Lorente, Eastern Samar; Buenavista, Quezon; Dinagat Island; and Agusan del Sur³³. Out of the 8,281 small-scale mining operations engaged in gold, other metallics and non-metallics, it

³¹Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry.” *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

³²Simeon, Louise Maureen. 2016. “Government Halts Operations of Small-Scale Miners”. *Philippine Star*. 9 August. Available html <http://www.philstar.com/business/2016/08/09/1611391/government-halts-operations-small-scale-miners>

³³Mayuga, Jonathan L. 2017. “Lopez not keen on approving new ‘Minahang Bayan’ sites this year”. *Business Mirror*. 8 January. Available html <http://www.businessmirror.com.ph/lopez-not-keen-on-approving-new-minahang-bayan-sites-this-year/>

is estimated that only 16 per cent are considered legal³⁴. The operations outside the MB is a clear defiance of EO 79 and RA 7076 but is also symptomatic of how weak government is in the implementation of its laws. Since these mines are operating illegally, they remain effectively unregulated by the government. Furthermore, Llaguno et. al. point out that its promulgation has not had significant effect on “the portion of the sector that operates legally” with economic, environmental, health and safety issues still persisting to this day³⁵.

In August 2016, the DENR Secretary Lopez ordered the stop of small-scale mining operations, emphasizing that all “small-scale mining activities operating outside the MB were illegal in nature”³⁶. The decision is based on EO 79 but also the Department’s drive to “protect and conserve the environment, and promote sustainable development based on ecologically sound economic activities such as agri-forestry and ecotourism”³⁷. However, it is not clear whether the edict has been honored by the ASGM communities because as Verbrugge points out, many States, the Philippines included, are weak in terms of exercising control over mining sites because local state actors hold more sway in these communities³⁸. In Benguet province, a well-known and well-established mining community has never established a MB despite the passage of RA No 7076, which indicates the community’s clear defiance of national laws³⁹.

Complicating matters is the fact that unregulated mines are often located in “unruly uplands” (Scott 2009 in Verbrugge), “where armed actors like soldiers, paramilitaries, police and communist rebels of the New People’s Army (NPA) maintain a foothold in the mining economy”⁴⁰. Aside from these armed groups, small-scale mining areas are also “controlled by middle-men who finance...[ASGM] activities”⁴¹ and who with weak government control, rake in the profit from the gold mining venture.

Various studies worldwide show that a combination of “a range of fiscal-administrative barriers, rent-seeking behaviour on the part of government officials, low literacy rates, the remoteness of government offices, ... prevents them from actually... (e.g. Hentschel et. al., 2002; Van Bockstael, 2014) succeeding in regulating the industry”⁴². For instance, there is limited

³⁴Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

³⁵Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

³⁶Mayuga, Jonathan L. 2017. “Lopez not keen on approving new ‘Minahang Bayan’ sites this year”. *Business Mirror*. 8 January. Available html <http://www.businessmirror.com.ph/lopez-not-keen-on-approving-new-minahang-bayan-sites-this-year/>

³⁷Simeon, Louise Maureen. 2016. “Government Halts Operations of Small-Scale Miners”. *Philippine Star*. 9 August. Available html <http://www.philstar.com/business/2016/08/09/1611391/government-halts-operations-small-scale-miners>

³⁸Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation”. *Journal of Rural Studies*. August.47:108-116.

³⁹Gamboa, Rey. 2017. “A Reader’s View of Small-Scale Mining”. Letter from Deogracias Contreras. *Philippine Star*. 21 March. Available html <http://www.philstar.com/business/2017/03/21/1682996/readers-view-small-scale-mining>

⁴⁰Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation”. *Journal of Rural Studies*. August. 47:108-116.

⁴¹Gamboa, Rey. 2017. “A Reader’s View of Small-Scale Mining”. Letter from Deogracias Contreras. *Philippine Star*. 21 March. Available html <http://www.philstar.com/business/2017/03/21/1682996/readers-view-small-scale-mining>

⁴²Verbrugge, Boris. 2016. “Voices from Below: Artisanal and Small-Scale Mining as a Product and Catalyst of Rural Transformation”. *Journal of Rural Studies*. August. 47:108-116.

government capacity to enforce existing legislation that is further complicated by the transient and mobile nature of ASGM, which moves from location to location depending on the amount gold the area yields⁴³.

Moreover, ASGM-operators “have limited incentives to comply with existing legislation because the state is unable to offer them anything in return, including basic mineral tenure security”. To begin with, the “challenging application requirements and process are adding more to their lack of drive to obtain permit to legally operate”⁴⁴.

However, according to the study of Llaguno et. al., “subsequent surveys, interviews and workshops in Kalinga, Abra and Camarines Norte, miners, local government executives and other stakeholders maintain that legalization and regulation are two of the most important needs of the small-scale mining industry in its journey towards sustainability”⁴⁵. The problem on the formalization and regulation of the ASGM industry is rooted in the “lengthy, resource-intensive and sometimes politicized permitting/licensing application process”⁴⁶. For instance, the declaration of an area as a MB goes through a circuitous and lengthy process that goes through the review of authorities at the regional (Regional Director and the Chairman of the PMRB) and the national level (e.g. DENR Secretary). The process has had a very dismal track record in processing MB applications: according to existing records many applications have been pending anywhere between three and 25 years⁴⁷. The glacial pace of processing papers has had real implications on the mines on different levels--government, environment, communities, individuals and children—affecting all these groups negatively in one way or another.

2.2.2 The smuggling of gold. Mining Consultant Deogracias Contreras disclosed in a letter to a Philippine Star columnist that the exigent stipulations of RA No. 7076 and its accompanying IRR (DENR Administrative Order 2015-03) has actually resulted to small-scale mining activities going underground and the foregoing of reporting to the government. With this “No gold produce was sold over the counter to the Central Bank by small-scale miners unlike before, and the mineral products were simply smuggled out of the country apparently undetected by the government authorities” to Southeast Asia and Hong Kong⁴⁸.

Ironically, the MB is the government’s attempt to legalize and regulate small-scale mining to determine the illegal sale of gold to the foreign market, enable the government to establish control in small-scale mining sites, earn revenue via the imposition of taxes, and to enforce stricter

⁴³Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁴⁴Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

⁴⁵Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

⁴⁶Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

⁴⁷Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

⁴⁸Gamboa, Rey. 2017. “A Reader’s View of Small-Scale Mining”. Letter from Deogracias Contreras. *Philippine Star*. 21 March. Available html <http://www.philstar.com/business/2017/03/21/1682996/readers-view-small-scale-mining>

environmental controls and health standards for the workers⁴⁹. However, problems with enforcement of laws have not stopped the illegal trade of gold from ASGM.

Since 2013, it has been found that there is an increasing aggressive involvement of Chinese firms in small-scale mining activities⁵⁰. Reports that questionable Chinese mining investors have entered the country and entered into illegal deals with ASGM miners that are onerous to the Philippine Government. There are reports that “Chinese mining firms operate under the cover of domestic small-scale miners to bypass Philippine mining laws and protocols, as well as to avoid the large capital requirements, fees and taxes associated with large-scale mining”⁵¹. Through collusion with small-scale miners, Chinese firms fund small-scale mining permits for a minimal fee. The ore and the gold they are able to get from ASGM communities are then smuggled to Hong Kong or China, which accounts for declines in the report of metallic mineral production value⁵². A report by Florida Jurado⁵³ appears to support this claim:

Available data from the MGB show that total gold production from 2005 to 2014 averaged 30,733 kgs annually of which 19,908 kgs or 63 per cent came from small-scale mining and 10,825 kgs or 37 per cent from large-scale mining. However, gold production from small-scale mining decreased by 38 per cent for 28,556 kgs in 2010 to 17,639 kgs in 2011 and significantly dropped to 1,090 kgs or by 94 per cent in 2012. It further declined to 589 kgs or by 46 per cent in 2013, although it slightly grew to 633 kgs or 7 per cent in 2014.

There has also been a 98 per cent drop in the amount of gold sold from small-scale mining to the Central Bank of the Philippines according to former MGB Director Leo Jasareno. Jasareno who surmises that gold was “likely being sold illegally on the black market or smuggled out of the country”⁵⁴.

2.3 Working conditions

Because ASGM communities remain largely informal and unregulated, mine operators see no obligation to conform to safety standards set by the law. Working conditions in the mines are often unsafe and risk-filled, which means they are “dirty, difficult and dangerous” as ILO defines hazardous work⁵⁵. However, it must also be pointed out that even in situations where ASGM operations have the requisite licenses to operate in government-authorized MB, the employees are denied of “formal-legal recognition and protection”⁵⁶.

⁴⁹Department of Environment and Natural Resources. 2015. Administrative Order 2015-03. “Revised Implementing Rules and Regulations of Republic Act No. 7076, otherwise known as the ‘People’s Small-Scale Mining Act of 1991’”. Available html <http://www.mgb.gov.ph/images/stories/DAO2015-03.pdf>

⁵⁰Romulo, Roberto. 2016. “Small-Scale mining: Immeasurable Damage”. *Philippine Star*. 22 July. Available html <http://www.philstar.com/business/2016/07/22/1605232/small-scale-mining-immeasurable-damage>

⁵¹Romulo, Roberto. 2016. “Small-Scale mining: Immeasurable Damage”. *Philippine Star*. 22 July. Available html <http://www.philstar.com/business/2016/07/22/1605232/small-scale-mining-immeasurable-damage>

⁵²Romulo, Roberto. 2016. “Small-Scale mining: Immeasurable Damage”. *Philippine Star*. 22 July. Available html <http://www.philstar.com/business/2016/07/22/1605232/small-scale-mining-immeasurable-damage>

⁵³Jurado, Florida J. 2015. “Philippine Small-Scale Mining Tax Issues and Concerns”. *NRTC Tax Research Journal*. Nov to Dec. 27:6.

⁵⁴Romulo, Roberto. 2016. “Small-Scale mining: Immeasurable Damage”. *Philippine Star*. 22 July. Available html <http://www.philstar.com/business/2016/07/22/1605232/small-scale-mining-immeasurable-damage>

⁵⁵International Labour Organization. No Date. Hazardous Work. Available html <http://www.ilo.org/safework/areasofwork/hazardous-work/lang--en/index.htm>

⁵⁶Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

Work at ASGM often involves backbreaking labour that flouts internationally accepted labour standards. Verbrugge⁵⁷ provides readers a vivid description of the work entailed in ASGM:

At the lower tiers of production regimes in the sector are unskilled day labourers like ore haulers (atraseros), ore packers and processing plant workers, who often receive small and fixed or piece-rate (e.g. per bag of ores) wages, lack long-term income security, are often underage, and are exposed to various working hazards (e.g. exposure to toxic chemicals, tunnel collapse). The actual diggers (abanteros) are organized into corporations headed by a team leader, often an experienced miner responsible for overseeing the mining operations. Corporation members receive a percentage share of the net revenues (i.e. the revenues remaining after the financier has deducted the operational expenses), paid either in cash (money sharing) or in kind (graba/ore sharing). The remainder of the revenues accrues to the financier(s), who often retain(s) a 40 to 60 per cent share. Included in the operational expenses are not only the wages of unskilled day labour, costs for ore processing and the costs of inputs like gasoline and digging tools, but sometimes also the relatively higher wages of (semi) skilled labour like carpenters, explosives experts, technicians, portal guards and in some cases even chemists and engineers.

The work can best be described as exploitative with those in the upper tiers of the work hierarchy (i.e. financiers) benefitting most from the hard work of those in the lower tiers of production.

In the absence of formal safety nets (e.g. insurance, health benefits and access to loans) in ASGM, miners rely on financiers to provide them with funds in the face of emergencies and family needs. In the Philippines, financiers provide not only the subsistence needs of miners, but also provide them cash advances or “utang” that enable workers to tide over their needs until the next payday.⁵⁸ This could come in either in the form of cash or in kind, such as a motorcycle or a “sinemana”, a systematic weekly allowance provided by the financier to his/her “abanteros”, which typically ranges between Php1,000 and Php1,500 (US\$20-30). In both cases, costs are deducted from the worker’s share as part of the operational expenses⁵⁹.

But this is not to say that the cash advances act as real social safety nets because these are “later deducted from the worker’s share as part of the operational expenses” anyway. While the arrangement provides benefits to the workers, it is still entrenched in exploitation and unequal social relations because food is often provided from the financier’s own store, or that of one of his friends or family members⁶⁰. Thus, the money that the workers get is plowed back into the coffers of the financier or his cohorts. Breman⁶¹ also describes such arrangements as a form of “debt of bondage,” which enables the financier to have a hold over the miners. Because the workers are “given” their basic needs by their financiers, there is an unwritten obligation to

⁵⁷Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁵⁸Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁵⁹Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁶⁰Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁶¹Breman, Jan. 1999. “Industrial Labour in Post-Colonial India II : Employment in the Informal-Sector Economy”. *International Review of Social History*. 44(3), 451–483.

reciprocate this with loyalty. Financiers benefit from such an arrangement as the sense of obligation from workers they “help,” allow them to have access to a reliably supply of labour. Sometimes, the financier retains up to 70 per cent of the net revenues, i.e. those revenues remaining after the operational costs have been deducted⁶².

The exploitative nature of ASGM can be regarded as built-in into the system. ASGM operators often intend to maintain the informal nature of the industry to escape strict stipulations of the various national laws, IRR and department orders. One of the department orders that ASGM operators have evaded is DENR Administrative Order 1997-30⁶³, which sets rigorous safety and environmental regulations, which when enforced will disqualify most of the operating small-scale mining operations in the country⁶⁴. Moreover, the government can only impose and determine the effectiveness of these rules and regulations in registered mining sites. As it is, the registration of mining sites with government remain dismal. Thus, miners cannot take advantage of other services and assistance that the government may offer to promote responsible and more efficient mining (e.g. centralized assay facilities, trainings, among others)⁶⁵.

On the flip-side of the coin, “various fiscal-administrative and political impediments prevent ASM-operators from entering the formal economy, including high permit costs, rent-seeking, nepotism and patronage”⁶⁶.

2.4 Work hazards

ASGM usually entails heavy and precarious manual labour as rocks, soil and other debris are moved manually and the gold separated from the ore using “rudimentary or unsafe mining and mineral processing techniques”⁶⁷. In the absence of occupational safety standards and sophisticated mining equipment, workers face numerous work hazards in ASGM that predisposes them to disease and injuries that can reduce their productivity and income for dependents.

The article by Smith et. al. lists down some of the possible effects of grueling physical labour to the health of miners: ergonomic stresses; musculoskeletal disorders and diseases; respiratory diseases; hearing loss; parasitic infections; infectious diseases such as tuberculosis and skin infections, fractures; and other similar effects on the body⁶⁸. There is also the problem of silicosis and mesothelioma that are brought on by exposure to dust⁶⁹.

⁶²Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁶³Department of Environment and Natural Resources. Administrative Order 1997-30. Small-scale Mine Safety Rules and Regulations. Available html <http://www.mgb10.com/policies/ADMINISTRATIVE%20ORDERS/DAO%201997-30.pdf>

⁶⁴Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁶⁵Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. *Philippine Engineering Journal*. Vol. 37, No. 1: 45-62.

⁶⁶Verbrugge, Boris. 2016. “Formalizing artisanal and small-scale mining: Whither the workforce?” *Resources Policy*. 47 (3): 134-141. March.

⁶⁷Smith, Nicole, Saleem Ali, Carmel Bofinger and Nina Collins. 2016. “Human health and safety in artisanal and small-scale mining: An integrated approach to risk mitigation”. *Journal of Cleaner Production*. 129: 43-52.

⁶⁸Smith, Nicole, Saleem Ali, Carmel Bofinger and Nina Collins. 2016. “Human health and safety in artisanal and small-scale mining: an integrated approach to risk mitigation”. *Journal of Cleaner Production*. 129: 43-52.

⁶⁹Viega, Marcelo and Henrique Morais. 2015. “Backgrounder: Artisanal and Small-Scale Mining (ASM) in Developing Countries”. Canadian International Resources and Development Institute. British Columbia. Available html http://cirdi.ca/wp-content/uploads/2015/04/CIRDI-ASM-Backgrounder_2015Apr10.pdf.

Moreover, miners also face physical hazards such as: landslides; decompression sickness from diving; unstable underground structures; rock falls; poorly built tunnels; airborne pollutants (equipment exhaust and dust); flooding; heat and cold stress; poor air quality/ventilation; blasting/explosives; stumbling, slipping and falling; gender-based violence and abuse; poor sanitation; improper use of chemicals; and dense living arrangements.

Miners are also exposed to different naturally occurring chemicals and work-related chemicals used to separate the gold from the ore such as: mercury, cyanide and zinc. They also include naturally occurring ones such as arsenic, chromium, radon, aluminum, lead, methane and others⁷⁰. Exposure to these chemicals causes illnesses, some of which are irreversible. This is exacerbated by the fact that health facilities are often not available in ASGM communities because these communities are located in far-flung areas, away from city or municipal centres where health facilities are usually available.

Miners and their families are also exposed to increased risks of HIV/AIDS and other sexually transmitted diseases as brothels and drug use are common in mining communities⁷¹.

2.5 Health and environmental impact of the use of mercury

That ASGM provides livelihood and income to the communities is unquestionable, however, this comes at a great cost. In the previous section, the different types of illnesses that beleaguer miners have been discussed. Among the most serious illnesses are caused by the use of mercury in ASGM affecting not only individuals, but community health as well.

In many small-scale gold mining communities, workers use mercury to extract gold from the ores. Mercury attracts gold and allows it to separate from other soil, minerals or rocks. Once the gold particles attach themselves to the mercury, the amalgam of gold and mercury are heated, which causes the mercury to evaporate leaving the gold behind⁷².

Mercury in ASGM communities are used in two ways: (a) the first method involves panning where soil containing gold particles are swirled in a round pan after which mercury is added to attract gold. The amalgam is separated with a blowtorch, which makes the mercury evaporate as a poisonous gas; and (b) the second method is “whole ore amalgamation” that uses large amounts of mercury dumped directly into ball mills filled with the whole (unconcentrated) ore and mixed in the running ball mill for a period of time. After this, the mercury-gold amalgam is retrieved and burned over a fire to obtain the gold⁷³.

Most of the child labourers interviewed by Human Rights Watch⁷⁴ were working with mercury. The youngest child interviewed who burned the mercury-gold amalgam was nine years

⁷⁰Smith, Nicole, Saleem Ali, Carmel Bofinger and Nina Collins. 2016. “Human health and safety in artisanal and small-scale mining: an integrated approach to risk mitigation”. *Journal of Cleaner Production*. 129: 43-52.

⁷¹Ballard, Chris and Glenn Banks. 2003. “Resource Wars: The Anthropology of Mining”. *Annual Review of Anthropology*. 32: 287-313.

⁷²Dozolme, Philippe. 2016. “Why is Mercury used in Gold Mining and Why is it a Problem?” *The Balance*. 21 November. Available html <https://www.thebalance.com/gold-mining-mercury-usage-2367340>

⁷³Human Rights Watch. 2015. “What...if something Went Wrong?” Hazardous Child Labour in Small-Scale Gold Mining in the Philippines. 29 September. Available html <https://www.hrw.org/report/2015/09/29/what-if-something-went-wrong/hazardous-child-labour-small-scale-gold-mining>

⁷⁴Human Rights Watch. 2015. “What...if something Went Wrong?” Hazardous Child Labour in Small-Scale Gold Mining in the Philippines. 29 September. Available html <https://www.hrw.org/report/2015/09/29/what-if-something-went-wrong/hazardous-child-labour-small-scale-gold-mining>

old. The children usually obtained the mercury from local traders. They mixed it into the ore with their bare hands and often also burned the amalgam, with nothing to protect them from the toxic fumes. Children were observed burning the amalgam in various settings, including indoors and inside homes, where young children and pregnant women were being exposed to the fumes.

The burning of mercury produces gas and mine tailings that could lead to serious health and environmental issues⁷⁵:

High level and prolonged exposure to gaseous mercury [even in small amounts] can affect the lungs, brain, kidneys and immune system of people. It can cause varying symptoms such as tremors, emotional changes, insomnia, neuromuscular disorders such as weakness, muscle atrophy or twitching, headaches, nerve problems and mental function issues. This is especially dangerous to pregnant women and children⁷⁶. Higher exposures may also cause kidney and respiratory failure and death.

Most vulnerable to this are miners who are directly handling the mercury. As the mercury evaporates, the workers and people nearby including their families could inhale this that could lead to serious health complications. Most vulnerable are pregnant women, fetuses and children. Fetuses exposed to mercury usually experience developmental delays such as cognitive impairment (mild mental retardation)⁷⁷.

Fumes could also be swept by winds that could affect people in surrounding communities. According to the US Environmental Protection Agency, fumes could “rise into the atmosphere where it could circulate for three months before raining again”⁷⁸.

But the most serious effect is when mine tailings settle into the surrounding environment, seeping into the ground and contaminating water supply. Once mercury settles in bodies of water, micro-organisms act on it and change it into methylmercury⁷⁹, which is considered one of the most toxic forms of mercury. This could be ingested by fish and shellfish, which remain in their bodies and passed on when the seafood is consumed by human beings.

Despite the serious impact of the use of mercury on people and the environment, unscrupulous financiers and miners still use mercury because it is the “easiest and most cost effective solution for gold separation”⁸⁰. It is estimated that ASGM mines in the country discharge approximately 70 tons of mercury into the environment each year⁸¹.

⁷⁵Romulo, Roberto. 2016. “Small-Scale Mining: Immeasurable Damage”. Mines and Geosciences Bureau, Department of Environment and Natural Resources. 22 July. Available html <http://www.mgb.gov.ph/2015-05-13-02-02-11/news-articles/380-small-scale-mining-immeasurable-damage>

⁷⁶US Environmental Protection Agency. No Date. Health Effects of Exposures to Mercury. Available html <https://www.epa.gov/mercury/health-effects-exposures-mercury>

⁷⁷World Health Organization. 2017. Mercury and Health. WHO Fact Sheet. Available html <http://www.who.int/mediacentre/factsheets/fs361/en/>

⁷⁸US Environmental Protection Agency. No Date. Health Effects of Exposures to Mercury. Available html <https://www.epa.gov/mercury/health-effects-exposures-mercury>

⁷⁹US Environmental Protection Agency. No Date. “How People are Exposed to Mercury”. Available html <https://www.epa.gov/mercury/how-people-are-exposed-mercury>

⁸⁰Dozolme, Philippe. 2016. “Why is Mercury Used in Gold Mining and Why it is a Problem”. *The Balance*. 21 November. Available html <https://www.thebalance.com/gold-mining-mercury-usage-2367340>.

⁸¹Human Rights Watch. 2015. “What...if something Went Wrong?” Hazardous Child Labour in Small-Scale Gold Mining in the Philippines. 29 September. Available html <https://www.hrw.org/report/2015/09/29/what-if-something-went-wrong/hazardous-child-labour-small-scale-gold-mining>

All of these happen because of the absence of a formal small-scale mining sector. According to Llaguno et. al.,⁸² “the environment...stands to reap the benefits of regulation as the miners can...request assistance from the government on the trainings and environmentally-friendly technologies on gold processing – something that only the minority legally-registered small-scale mining operations now are able to avail of”.

One of the environment friendly technologies developed by the Department of Science and Technology (DOST) and the University of the Philippines Diliman, Department of Mining, Metallurgical and Materials Engineering is a “green mining technology” that allows the extraction of gold and copper without the use of toxic chemicals like mercury and cyanide. The technology uses the “enhanced gravity concentration-flotation-extraction” process and uses an integrated tailings disposal and treatment system. This method assures that waste materials that are disposed in the environment are safe and considered as non-pollutant”⁸³.

2.6 Child labour in ASGM

In this section, we discuss child labour, which is one of the most serious lapses in the enforcement of laws in the Philippines as it involves children who are most vulnerable to exploitation given their age and the developmental stage they are in.

According to ILO,⁸⁴ the term “child labour” is often defined as work that deprives children of their childhood, their potential and their dignity and that is harmful to physical and mental development.” It refers to work that:

- is mentally, physically, socially or morally dangerous and harmful to children;
- interferes with their schooling by depriving them of the opportunity to attend school; obliging them to leave school prematurely; or requiring them to attempt to combine school attendance with excessively long and heavy work; and
- in its most extreme forms, child labour involves children being enslaved, separated from their families, exposed to serious hazards and illnesses and/or left to fend for themselves on the streets of large cities – often at a very early age.

As early as 2003, the country passed RA No. 9231 or the “Act Providing for the Elimination of the Worst Forms of Child Labour and Affording Stronger Protection for the Working Child” and Republic Act 7658 or “An Act Prohibiting the Employment of Children Below 15 Years of Age in Public and Private Undertakings”. The law provides special protection to children from all forms of abuse, neglect, cruelty, exploitation and discrimination and other conditions prejudicial to their development including child labour and its worst forms”. Moreover, it also provides sanctions for their commission and carries out a programme for prevention and deterrence of and crisis intervention in situations of child abuse, exploitation and discrimination”. The law stipulates that children below 15 years old are not allowed to work except when they work for their family, the employment does not endanger the child’s safety, health and morals, nor impairs his/her normal development.

⁸²Llaguno, Erickson, Virginia J Soriano and Mili-Ann M. Tamayao. 2016. “Improving the ‘Minahang Bayan’ Declaration Process: A First Step Towards Achieving Sustainability in Philippine Small-Scale Gold Mining Industry”. Philippine Engineering Journal. Vol. 37, No. 1: 45-62.

⁸³Department of Science and Technology Media Service. 2016. “Green Mining Technology will Help 300,000 Small-Scale Miners, Says DOST Chief”. DOST. 28 March. Available html <http://www.dost.gov.ph/knowledge-resources/news/45-2016-news/956-green-mining-technologywill-help-300-000-small-scale-miners-says-dost-chief>

⁸⁴ILO. No Date. “What is Child Labour?” Available html <http://ilo.org/ipec/facts/lang--en/index.htm>

Despite the provision banning children under 15 from working and children under 18 from working in hazardous conditions, it was found that 14 per cent of children who live in mining areas work in mining, majority of who are between the ages of 11 and 17. There are also younger children working in the mines and exposed to hazardous conditions⁸⁵. The ILO estimated in 2009 that over 18,000 girls and boys work in mining in the Philippines⁸⁶.

According to the group's report, the government barely monitors child labour in mining nor does it penalize employers or withdraw children from these dangerous work environments. While there are also laws and programmes that extend education (RA No. 10533 Enhanced Basic Education Act) and social support for children and their families in the mines, the government has been terribly remiss in delivering such services to child labourers in the mines. The lack of education and social safety nets for children are contributing to their being indentured to poverty for life. These children work in:⁸⁷

- Underwater mining, which involves the practice of compressor mining along the shore, in rivers and in swampy areas. Miners dive underwater supported by air from a tube attached to a diesel-run air compressor at the surface. This is extremely dangerous both carried out by adult men and sometimes boys.
- Mining in underground pits, where adult and young miners work in dry underground pits that are up to 25 meters deep. The miners work in the pits for several hours in suffocating and sometimes oxygen deprived conditions. In Labo, Camarines Norte, a 17 year-old boy and his 31 year-old brother died of asphyxiation in September 2014 as reported by the Human Rights Watch.
- Carrying heavy loads, including very young children, carry substantial loads of rocks, soil or ore in underground and above ground mines.
- Processing gold with mercury, normally done by children, including many girls, as young as nine years old. Unknown to many of these children, mercury is especially harmful to children like them since their organs are still developing. This puts them at more risk with health issues and illnesses. In the neighbouring communities of Mt. Diwalwal in Compostela Valley, school children (who do not work in the mines) have been found to have high concentrations of mercury in their system. Because the labour structure in ASGM are informal and traditional in nature, majority of workers perform their tasks without proper training in handling equipment and the use of protective gear such as masks, gloves and goggles that will offer them minimum protection from being exposed to mercury for long periods of time⁸⁸. Scientific studies⁸⁹ have shown that prenatal exposure to mercury has resulted to lower IQ scores, poor performance in school including memory, attention, language and spatial recognition. This has also been found to be true in school age children

⁸⁵Human Rights Watch. 2015. "What...if something Went Wrong?" Hazardous Child Labour in Small-Scale Gold Mining in the Philippines. 29 September. Available html <https://www.hrw.org/report/2015/09/29/what-if-something-went-wrong/hazardous-child-labour-small-scale-gold-mining>

⁸⁶ILO. 2009. "Girls in Gold Mining: 'I don't want my Children to be Like Me'". Available html http://www.ilo.org/global/about-the-ilo/newsroom/features/WCMS_107949/lang--en/index.htm

⁸⁷Human Rights Watch. 2015. "What...if something Went Wrong?" Hazardous Child Labour in Small-Scale Gold Mining in the Philippines. 29 September. Available html <https://www.hrw.org/report/2015/09/29/what-if-something-went-wrong/hazardous-child-labour-small-scale-gold-mining>

⁸⁸Caymo, Apolinario II. 2016. Analysis of the Child Labour Issue in Small-Scale Mining Operations in the Philippines. LLM Paper. Universiteit Gent, Faculty of Law.

http://lib.ugent.be/fulltxt/RUG01/002/272/391/RUG01-002272391_2016_0001_AC.pdf

⁸⁹Bose-O'Reilly, Stephan, Kathleen M. McCarty, Nadine Steckling and Beate Lettmeier. 2010. "Mercury Exposure and Children's Health". *Current Problems Pediatric Adolescent Health Care*. Sep; 40(8): 186-215. Available html <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3096006/>.

who have been exposed to mercury due to their body weight and development stage they are in.

However, there are also other implications of working in mines for children. As children are mixed with adults in the mines, they are exposed to adult activities that may not be appropriate for their age⁹⁰ such as gambling, alcoholism and prostitution. Sometimes, children are not just exposed to the reality of prostitution; instead, they themselves become victims of prostitution in the mines, which predisposes them to teenage pregnancy, violence and sexually transmitted diseases. The communities could also be “breeding ground for crime”⁹¹ and drugs which could compromise the moral fabric of children. According to the United Nations International Children's Emergency Fund (UNICEF), “increase in social pathologies such as alcoholism, drug use and crime” could lead to children engaging in criminal activities and addicted to drugs and alcohol⁹².

Moreover, working in the small-scale mines leave the children with little or no opportunity to get formal education or to get back to school. This compromises children’s future in such a way that they are robbed of the opportunity to escape the poverty trap they are in. With their work in the mines while trying to balance school, children may find themselves too tired to attend classes which forces them to drop out at some point. Oftentimes, school is also far away from their work since schools, especially high schools are usually found in the city centers away from the mining communities.

Living and working in the mines also makes children vulnerable to being victims of conflict in the mine as “existing tensions over access to economic opportunities and natural resources” (e.g. land and water) are common in mining communities⁹³. Conflict could lead to the recruitment of children by armed groups; disruption of schooling; and the rendering of children as orphans.

The Benigno Aquino Government launched the Pantawid Pamilyang Pilipino Programme (4Ps) as part of its centerpiece social service programme for the poor. The CCT programme of the DSWD reaches approximately, “four million households from the poorest of the poor, who are often forced to involve their children in work to augment the family income”⁹⁴. The aim of the 4Ps is to put children to school by making the education of children as a requisite of the CCT. However, the DSWD recognized that putting children to school will not necessarily solve the problem of child labour. With this, the DSWD under the Duterte Government added a new module to the Family Development Sessions “to raise awareness on child labour and the role of

⁹⁰Caymo, Apolinario II. 2016. Analysis of the Child Labour Issue in Small-Scale Mining Operations in the Philippines. LLM Paper. Universiteit Gent, Faculty of Law.

http://lib.ugent.be/fulltxt/RUG01/002/272/391/RUG01-002272391_2016_0001_AC.pdf

⁹¹Viega, Marcelo and Henrique Morais. 2015. “Backgrounder: Artisanal and Small-Scale Mining (ASM) in Developing Countries”. Canadian International Resources and Development Institute. British Columbia. Available html http://cirdi.ca/wp-content/uploads/2015/04/CIRDI-ASM-Backgrounder_2015Apr10.pdf.

⁹²UNICEF. 2015. *Children’s Rights and the Mining Sector: UNICEF Extractive Pilot*. Geneva: UNICEF. Available https://www.unicef.org/csr/files/UNICEF_REPORT_ON_CHILD_RIGHTS_AND_THE_MINING_SECTOR_APRIL_27.pdf

⁹³UNICEF. 2015. *Children’s Rights and the Mining Sector: UNICEF Extractive Pilot*. Geneva: UNICEF. Available https://www.unicef.org/csr/files/UNICEF_REPORT_ON_CHILD_RIGHTS_AND_THE_MINING_SECTOR_APRIL_27.pdf

⁹⁴UNICEF. 2015. *Children’s Rights and the Mining Sector: UNICEF Extractive Pilot*. Geneva: UNICEF. Available https://www.unicef.org/csr/files/UNICEF_REPORT_ON_CHILD_RIGHTS_AND_THE_MINING_SECTOR_APRIL_27.pdf

the family to prevent or to end child labour, especially its worst forms”⁹⁵. Ms Judy Taguiwalo, DSWD Secretary said the module will explain to the 4Ps beneficiaries the negative effects of child labour on children and their families and teach them how to combat it in their own homes and communities.

The reports of children working in the mines are symptomatic of government’s failure to properly respond to the needs of children. The lack of government response is blamed on the insufficient number of staff and technical capacity, but also to the lack of political will by national and local officials to take measures that will not be well-received by the local population in impoverished areas, or by mine owners and traders that rely on child labour⁹⁶. There is also lack of coordination among government bodies that will send a strong message to ASGM communities of the illegality of hiring children in the mines. For instance, the Bangko Sentral ng Pilipinas (BSP) and international gold trading and refining companies do not have monitoring mechanisms to check whether their source of gold is child-labour-free⁹⁷.

3. BACKGROUND INFORMATION ON RESPONDENTS

The research covered a total of 388 respondents, almost half came from T’boli, South Cotabato (45.9 per cent). Two municipalities in Camarines Norte were also surveyed, the towns of Paracale and Labo. Table 2 shows the distribution of respondents by municipality.

Table 2. Distribution of respondents by study area

	Frequencies	Percentage
Labo, Camarines Norte	81	20.9
Paracale, Camarines Norte	129	33.2
T’boli, South Cotabato	178	45.9
N	388	

Table 3 presents basic background information of respondents. A little more than half of them are women (55.7 per cent), majority are married (61.9 per cent). In terms of educational attainment, results of the survey show low level of education among most of the respondents. Four in ten reported that they either have elementary level of education or have graduated from elementary school. An almost similar percentage of the respondents has reached high school.

The average age of respondents is 43 years old.

⁹⁵Junio, Leilani S. 2017. “Social welfare dept creates module on child labour for 4Ps beneficiaries”. *Philippine Daily Inquirer*. 12 January. Available html <http://www.canadianinquirer.net/2017/01/12/social-welfare-dept-creates-module-on-child-labour-for-4ps-beneficiaries/>

⁹⁶Human Rights Watch. 2015. “What...if something Went Wrong?” Hazardous Child Labour in Small-Scale Gold Mining in the Philippines. 29 September. Available html <https://www.hrw.org/report/2015/09/29/what-if-something-went-wrong/hazardous-child-labour-small-scale-gold-mining>

⁹⁷Human Rights Watch. 2015. “What...if something Went Wrong?” Hazardous Child Labour in Small-Scale Gold Mining in the Philippines. 29 September. Available html <https://www.hrw.org/report/2015/09/29/what-if-something-went-wrong/hazardous-child-labour-small-scale-gold-mining>

Table 3. Basic background information of respondents

	Frequencies	Percentage
Sex		
Male	172	44.3
Female	216	55.7
N	388	
Marital status		
Single	15	3.9
Married	240	61.9
Cohabiting/Live-in	95	24.5
Separated	19	4.9
Widow/Widower	19	4.9
N	388	
Educational attainment		
Elementary	164	42.3
High School	171	44.1
Vocational	14	9.5
College	37	3.6
Did not attend school	2	0.5
N	388	
Age		
30 and below	82	21.1
31 – 40	90	23.2
41 – 51	102	26.3
51 and over	114	29.4
N	388	
Mean age (sd)	43.1 (13.4)	

3.1 Socio-economic status of respondents

Respondents (81.4 per cent) comes from households that can be considered economically disadvantaged. Four in ten reported an average monthly income lower than Php5,000 (USD98.45 at Php50.79=USD1) (Table 4). A similar proportion has a household monthly income between Php5,000 to Php11,999 (USD236.26).

Table 4. Monthly household income

	Frequencies	Percentage
Lower than Php5,000	156	41.1
Php5,000 – 11,999	153	40.3
Php11,800 – 14,999	14	3.7
Php15,000-20,000	14	3.7
More than 20,000	20	2.6
Amount varies every month	33	8.7
N	380	

3.2 Residential history

Four in ten respondents have lived in the barangay all their lives, while six out of ten respondents can be considered in-migrants, majority of whom have been living in the barangay for more than five years at the time of the study (Table 5). When asked why they moved to their current residence (barangay), the most common responses are the desire to work in the mines and

because they married someone from the barangay (Table 5a). Other reasons include calamity, their previous house was demolished, the family lives in the barangay, it is closer to the school of their children, they were able to buy properties in the barangay, among others.

Table 5. Length of stay in current barangay

	Frequencies	Percentage
Since birth	152	39.2
Less than one year	4	1.0
1-2 years	8	2.1
3-5 years	21	5.4
More than 5 years	203	52.3
N	388	

Table 5a. Reasons for moving to the barangay (multiple response)

	Frequencies	Percentage
To work in the mines	68	29.1
Married someone from the barangay	71	30.3
Husband/partner works in the mines	8	3.4
To look for gold	3	1.3
To look for work other than mining	18	7.7
Was invited by a friend	6	2.6
Personal reason	27	11.5
Others	54	23.1

When asked if they still have plans to move to other places, 9.3 per cent answered in the affirmative, the reason being to look for a job other than being a miner. On the other hand, majority said they intend to stay in the barangay where they are currently residing.

3.3 Experience and exposure to mining work

Close to half of all the respondents have worked in the mines (49.7 per cent). Of these respondents, 54.2 per cent are still currently involved in ASGM. They are employed as “abantero” or those who directly work in tunnels such as digging; “atrasero” or those tasked to haul off gravel or pack stones dug from tunnels on the side of hills/mountains or above ground holes; ball mill/back hoe operators; and those in-charge of separating gold from the ore using mercury. Thus, majority belong to the casual workforce.

Some respondents are also involved in office work or in providing administrative support, while others mentioned specific tasks involved in the different modes of gold mining such as panning, pounding of ore, hauling, checking the compressor, cooking of gold, among others. Women are usually relegated to “lighter” work such as gold panning, separating gold from ore using mercury and manually breaking ore.

Two in three of the total number of respondents have relatives who have worked or are currently working in ASGM (Table 6). This means that most respondents come from mining families and therefore are familiar over the issues faced by miners in ASGM. Almost half (45.1 per cent) of them still have relatives currently working in ASGM. Those who are not involved in mining are engaged in various livelihood activities such as farming, fishing, small business, office work and factory work.

Table 6. Respondent's relationship to relatives who have worked/ are working in ASGM (multiple response)

	Frequencies	Percentage
Parents	23	9.0
Parents-in law	11	4.3
Siblings	114	44.5
Grandparents	2	0.8
Aunts/Uncles	42	16.4
Cousins	116	45.3
Others	96	37.5
N	256	

3.4 Exiting from ASGM

On the other hand, those who are no longer in the mines stopped for the following reasons: they got sick (17 per cent); they find mining activities difficult (15.9 per cent); other opportunities came (9 per cent); or the mining venture failed to find gold (9.1 per cent). Among those who mentioned health reason for stopping from their mining work, they reported medical conditions such as asthma, lung problems, diabetes, hernia, among others (Table 7).

Table 7. Main reason for stopping mining work

	Frequencies	Percentage
Got sick	15	17.0
Mining is difficult	14	15.9
Mining was unsuccessful, was not able to get gold	8	9.1
Other opportunities came	8	9.1
Just waiting for next mining project	1	1.1
Salary is not enough	1	1.1
Others	41	46.6
N	88	

A big proportion of respondents mentioned reasons that were not in the original choices, and these include change in management of ASGM, wife is against mining work, financier was not able to pay them, they moved to another barangay, mining is not as profitable as it used to be, wife went abroad, they went back to school, they got married and had children, they have to take care of their children and there was also the fear of being apprehended.

During the times that they were out of work in ASGM, 19.3 per cent said they did not have other livelihood activities. Twenty per cent relied on farming, 17.5 per cent on small businesses. Other sources of income include construction work, trucking, driving tricycle, among others.

At present, these respondents are mostly involved in low income livelihood activities such as farming and small businesses such as sari-sari or variety stores. However, a significant number of respondents (20 per cent) said that they are currently unemployed since their last employment contract in the mines. These people have no sources of income that could aggravate their socio-economic situation further.

When asked if they still wish to work in ASGM again, more than half (59.1 per cent) of those who stopped mining said they have no intention at all of going back to mining. Only a third of those who are no longer working in the mines expressed the desire to work as miners in the future. Those who want to return to mining believe that working in the mines give them fast and easy access to income. Ten per cent are still undecided.

4. WORK ISSUES FACED BY ASGM MINERS

In this section, we look at outstanding issues faced by ASGM miners at work.

4.1 Contract

Some 95 per cent of miner respondents work without contracts. Only 2.6 per cent said they signed a contract with their last work at ASGM all of whom are from South Cotabato. In Camarines Norte, none of the respondents signed a contract, which is a practice that has gone on for generations. The absence of contracts is a function of the informal nature of ASGM work, with miners working for local financiers or for the family. There is no set time for the end of their work; work will only last for as long as the financier has money to shell out or when there is a significant gold haul that will enable the financier to continue funding the mining venture.

Employment agreement via contracts is important because it lays down the terms and conditions governing wages, benefits, termination procedures, covenants not to compete and the duties and responsibilities of employer and employee. This ensures the mutual protection of employers and employees. However, due to the informal nature of the employment in ASGM, employment is based on verbal agreements between the miner and the employer. 65 per cent of responders said their work is based on a verbal agreement between them and the financier, while 26 per cent answered their family owns the mining venture or they do freelance work wherein they pick rocks or ore from people they know.

4.2 Work hours and days

FGD respondents from Paracale described work as hard labour as it requires extraordinary physical exertion. Work hours are also long. Survey respondents share they work from ten to 16 hours a day, sometimes starting at 4 a.m. and ending late in the afternoon. In some cases, work could last up to the wee hours of the morning for those who start working in the afternoon. A few have reported working for almost 24 hours in some instances.

While work hours exceeded normal working hours, majority (95.3 per cent) said they do not get extra pay for the hours they worked beyond eight-hour hours, which violates the Labor Code stipulation that any work beyond eight hours a day entails an additional compensation equivalent to the regular wage plus at least 25 per cent of the regular wage.

This, again, has to do with the informal nature of the work. Some 59 per cent of the respondents said they were employed by individual financiers. This is followed by 12.2 per cent stating their own family finances the mining activities. A similar percentage answered “others” that includes self-financed ventures, foreign investors financing the ASGM activities, or there are no financiers because the miners dig or pan the gold on their own or they rely on the graces of other miners who give them left over soil, sand or ore where they can still extract gold (“nakikikulipaw”) (Table 8).

Table 8. Who finances the mines they are working on?

	Frequencies	Percentage
Own family	23	12.2
Corporation or a group of miners	12	6.4
Individual financier	111	59.0
Association of miners	2	1.1
No one	17	9.0
Others	23	12.2
N	188	

The rootedness of ASGM in the community’s history has kept mining in the study areas as an informal industry. Many employment practices from the past have been merely reproduced in the present, characterized by “lack of protection in the event of non-payment of wages, compulsory overtime or extra shifts, lay-offs without notice or compensation, unsafe working conditions and the absence of social benefits such as pensions, sick pay and health insurance”⁹⁸. Moreover, the informal nature of the industry where miners deal with private financiers makes miners accept the current available work arrangements as normal and adequate. The system is also perpetuated by financiers since they stand to gain the most from the informal arrangement, as they stand to gain the most especially if there is significant gold find.

A member of the barangay council in Paracale said, “yan pong kabod na yan ay nakagisnan na namin yan, yan po ay dating trabaho ng mga ninuno namin kumbaga, simula nung araw pa” (we grew up in mining, our forebears have worked as miners for the longest time). The President of the Mining Association in Barangay Tugos shares so “hindi namin alam na kami palang mga magkakabod ay illegal kasi iyon yung naging kumbaga hanapbuhay na minana namin sa aming mga ninuno, simula pa po sa panahon ng Kastila talagang marami ng nagkakabod na hindi naman sinasabing illegal”. (We never knew that small-scale mining was illegal because this has been an industry that we inherited from our forefathers. Mining has been in existence from the Spanish times and it was never considered illegal).

Thus, little effort was invested to organize the industry or to conform to labour laws and standards. Workers remain “bereft of formal-legal recognition and protection”⁹⁹. Given this, LGUs never intervened in ASGM operations until recently, when the law compelled LGUs to stop ASGM operations in areas that have not been declared by the government as MB, a strategy used by the government to formalize the mining operations of ASGM communities and for government to exercise greater control in these operations.

However, the case is different in South Cotabato. In South Cotabato, miners have formed mining associations, which gave ASGM a certain degree of formalization. These mining associations have also submitted applications to the MGB as “Minahang Bayan”.

Out of 192 respondents who ever worked in ASGM, only five said they signed a contract in their last employment. An overwhelming majority also reported that they did not have a contract the last time they worked in the mines (97.4 per cent). Of those who said they signed a contract, the length varied. Among those who have worked in the mines, half reported that they worked

⁹⁸ILO. No Date. Informal Economy. <http://www.ilo.org/global/topics/employment-promotion/informal-economy/lang--en/index.htm>

⁹⁹Verbrugge, Boris. 2016. “Formalizing Artisanal and Small-Scale Mining: Whither the Workforce?” Resources Policy. 47(3);134-141. Available html https://www.researchgate.net/publication/292949678_Formalizing_artisanal_and_small-scale_mining_Whither_the_workforce

continuously, while another half only had intermittent work. About 20 per cent mentioned such as working for less than a one-month or that depending on the financier, the availability of funds to continue work, location or on the earnings they get from ASGM (Table 9).

Without a contract, 67.4 per cent of respondents said that their work in the mines is based solely on what they have agreed with the financier.

Table 9. Number of working months

	Frequencies	Percentage
1-3 months	28	15.1
4-6 months	9	4.8
6-12 months	20	10.8
Continuous	93	50.0
Others	36	19.4
N	186	

When asked why work in the mines have not been continuous, a third mentioned they or the financier ran out of capital, followed by their health condition (17.5 per cent), or that they looked for other areas to mine (14 per cent) that shows, or they opted to work in the farm (10.5 per cent) (Table 10). Thus, we see that when it comes to number of working days, a third among those who have mining experience said that they work more than five days a week (six days 24 per cent and seven days 22 per cent) (Table 11).

Table 10. Reasons for the irregular work in the mines (multiple response)

	Frequencies	Percentage
Run-out-of-capital	19	33.3
Opted to work in the farm	6	10.5
Looked for other areas to mine	8	14.0
Have saved enough money	2	3.5
Got sick	10	17.5
N	57	

Table 11. Number of working days in a week

	Frequencies	Percentage
1 day	2	1.1
2 days	9	4.8
3 days	21	11.2
4 days	13	6.9
5 days	41	21.8
6 days	57	30.3
7 days	45	23.9
N	188	

4.3 Wages and benefits

Because of the informal nature of ASGM, there are no regular wages and benefits for many. For instance, only 44 per cent of respondents with mining work experience shared that they received payment (salary) when they were working in the mines.

A significant number of respondents (41.5 per cent) mentioned other forms of arrangement, mostly, having a share in the earnings when the group of miners gets a significant gold find, which means, in most instances, their income will depend on the amount of their gold haul. The income of small-scale miners is often based on production sharing such that out of 120 bags of ore extracted, ten bags will go to the landowner, another ten bags to the permit holder, while the remaining 100 bags will be divided as follows: 60 per cent goes to the operations management while the remaining 40 per cent will be divided among abanteros and other workers. On the other hand, for those who work on their own, they receive no salary but instead, get all the earnings, if there are, from their mining activity. However, in reality, arrangements are heavily skewed in favour of the financiers. Verbrugge notes, for instance, that miners receive a percentage share of the net revenues (i.e. the revenues remaining after the financier has deducted the operational expenses), paid either in cash (money sharing) or in kind (graba/ore sharing)” through a 40:60 sharing where the financier gets the lion share of the profit¹⁰⁰.

But gold haul is not significant all the time for ASGM miners. A local government official from T’boli noted that the discovery of gold in small-scale mining is often hinged on luck or fortune, rather than the efficient and methodical exploration of gold deposits. In his estimation, some 90 per cent of small-scale mining ventures fail to yield profits or go bankrupt because of this. In such instances, the lowly miners work for months on end up with little or no income at all in the end. Still the attraction of mining remains. A barangay captain in T’boli explains, “Halimbawa, ako ang may tunnel. Pupunta ang abantero sa akin. Wala namang sahod na ma-charge. Kung makabangga ng high grade na mina, syempre, high grade din ang income nila”. (For instance, I own a tunnel. The abantero will approach me. He will not have a regular salary. But if we discover a high grade mine, the returns will also be substantial). Thus, the lure of mining has to do with the potential payoff later on. They may have low returns for months or years, but when they finally find a significant gold deposit, miners could hit it big. Miners usually look up to financiers or fellow miners who have become rich after stumbling upon a big haul of gold.

With this, it does not come as a surprise that on average, miners estimated a monthly income of Php5,950 or US\$116.80 (s.d. 5,694). Seven per cent have monthly income of Php2,000 or US\$39.26 and less. With this, most miners live below the poverty line. Only 4 per cent of miners earn Php20,000 and over. Given the average amount they earn every month, it is no wonder that majority (62.1 per cent) considered their income insufficient to meet the needs of their family.

Only 2 per cent or five respondents who have ever worked in the mines said that they received other benefits aside from their salary. This includes rest day at the end of the week, medical benefit, paid medical leave, free housing, free food and mid-year bonus. Of the five, only two said that they were happy with the benefits they received from working in the mines. Interestingly, there is no life insurance benefits for the miners, considering that mining work is very risky on many levels.

4.3.1 PhilHealth. A significant number (68 per cent) of respondents are enrolled in PhilHealth, a government mandated insurance programme that aims to provide health insurance coverage for all Filipinos and consequently better access to healthcare. It provides inpatient benefits through hospitalization subsidies, outpatient benefits such as ambulatory or outpatient surgeries and subsidies for radiation therapy, hemodialysis and other similar procedures. Of this percentage, 65.9 per cent said the government pays for their PhilHealth contribution as part of

¹⁰⁰Verbrugge, Boris. 2016. “Formalizing Artisanal and Small-Scale Mining: Whither the Workforce?” Resources Policy. 47(3);134-141. Available html https://www.researchgate.net/publication/292949678_Formalizing_artisanal_and_small-scale_mining_Whither_the_workforce

government programme to ensure indigent Filipinos have health insurance. Under the programme, DSWD identifies people in the communities who have "no visible means of income," or whose income is not enough to sustain his/her family. Government subsidises the monthly fees for these people¹⁰¹. A quarter of the respondents said they pay their own PhilHealth coverage. Contributions are also paid regularly. This means, employers have no participation in the coverage of miners in PhilHealth.

However, while a large portion of the respondents are already covered by PhilHealth, it is still far from the ideal of universal coverage for health insurance for people, especially indigent members of the community. Coverage is essential because health insurance protects the family from being pushed further into poverty, especially in the wake of illnesses in the family. An interviewee from T'boli shared the importance of financiers linking their workers to the LGU to facilitate PhilHealth application.

PhilHealth is widely utilized by respondents who are enrolled in the programme PhilHealth. A little over half of the respondents (54.5 per cent) said they utilized it for their medical needs. More than half used PhilHealth for their own hospitalization, while 40.3 per cent used it for their family members (Table 12).

Table 12. Uses of PhilHealth (multiple response)

	Frequencies	Percentage
Own hospitalization	74	51.4
Hospitalization of family members	58	40.3
Medical check up	14	9.7
Laboratory, X-ray, MRI, CT-scan	6	4.2
N	144	

Among those who do not have PhilHealth coverage, two reasons stand out: they do not have enough money to pay the contribution or they do not know where to apply for membership. The latter two reasons point to a possible loophole in the system of identifying indigent members of the community who need medical insurance. But more than this, it shows that informal employers do not bother to enroll miners in the programme, a very basic benefit that employee should be given. Another possible explanation for this has been shared by a FGD participant from Barangay Tawig, Paracale, Camarines Norte who shared that financiers do not give benefits because work is usually temporary and only lasts for a few months.

Because of lack of PhilHealth coverage, majority (59 per cent) have to rely on themselves and their family's medical needs. Only 5 per cent reported that aside from PhilHealth, they also have other health cards.

FGD respondents from Camarines Norte noted that, financiers, on rare cases, provide monetary assistance to their sick employees. However, participants specifically used the term "consideration," which implies that financiers are not bound to give any form of financial assistance to their employees. The assistance is dependent on the generosity, kindness and capacity of the financiers to extend help to them.

¹⁰¹Rappler. 2015. "Tsekap: PhilHealth has new benefits for indigents". Rappler. 13 March. Available html <https://www.rappler.com/nation/86754-philhealth-tsekap-package>

4.3.2 Social Security System. More worrisome is the fact that only 30 per cent of respondents are members of the SSS, an important social safety net that assures members pension in their old age and provides essential benefits while they are still actively contributing to the fund.

Salary loan and retirement benefits are the most common benefits mentioned by respondents that they can get from SSS as shown in Table 13. The table is very instructive as the results show that many of the workers enrolled in SSS do not know the benefits available to them from SSS. This is probably another possible explanation for low enrollment rates: they are unaware of its advantages to them. Other possible explanations, similar to the ones propounded earlier, have to do with the informal and transient nature of the job, which social security from their employers.

Table 13. Uses of SSS (multiple response)

	Frequencies	Percentage
Medical	35	31.5
Pregnancy and childbirth	31	27.9
Retirement	44	39.6
Accident and disability	29	26.1
Death	36	32.4
Loan	45	40.5
Calamity loan	36	32.4
Others	29	26.1
N	111	

There are 66 per cent of SSS members pay their own contribution, while the rest are being paid for by their company or the government. This means that the financiers of six in ten are not complying with the mandatory coverage of workers to the SSS.

Close to half (47.9 per cent) of members of SSS reported that they pay their contribution regularly.

4.4.3 Pag-IBIG. An even smaller proportion of respondents said they are Pag-IBIG members (13.7 per cent). Interestingly, all employees who are or should be covered by SSS, should also be members of Pag-IBIG, whose payment should be equally shared between the employer and the employee. For those who are members of Pag-IBIG, more than half of them personally pay for their own Pag-IBIG contribution. Pag-IBIG, according to respondents, provides the following benefits: housing loan (39.6 per cent); calamity loan (34 per cent); savings/provident claims (30.2 per cent); and other kinds of loans (24.5 per cent) (Table 14).

Table 14. Benefits of Pag-IBIG (multiple response)

	Frequencies	Percentage
Savings/Provident claims	16	30.2
Loan for various purposes	13	24.5
Calamity loan	18	34.0
Housing loan	21	39.6
Others	9	17.0
N	53	

4.4 Conditions miners face in ASGM

ASGM poses many occupation and community health hazards¹⁰² by the very nature of the industry and the conditions miners face in the mines (Table 15).

Majority mentioned being soaked in water and mud (69.3 per cent) and exposure to extreme heat and cold (65.6 per cent). Exposure to dust (46.9 per cent) and fumes (40.6 per cent) were also common conditions associated with mining work.

Table 15. Conditions in the mines (multiple response)

	Frequencies	Percentage
Exposure to dust	90	46.9
Exposure to fumes	78	40.6
Exposure to fire, heat, gas and flames	42	21.9
Exposure to extreme heat and cold	126	65.6
Soak in water and mud	133	69.3
Landslide	32	16.7
Mining in the sea	5	2.6
Exposure to loud noise	42	21.9
Underwater mining	15	7.8
Handling dangerous chemical like cyanide and mercury	35	18.2
Use of equipment like compressor or dynamite	26	13.0
N	196	

4.4.1 Rating of occupational risks. Respondents who have worked in the mines confirm the occupational hazards they face. When asked to assess the danger levels of their work, 31.8 per cent described their work as very dangerous and 39.6 per cent said their work is dangerous. On the other hand, only one in ten described it as neutral while two in ten did not find their work dangerous.

Respondents with mining work experience were asked of their assessment of the danger involved in mining work in general, and of working underground and the use of compressor, in particular. Using a scale of one (very dangerous) to five (not dangerous), the mean score from respondents' assessment of working in the mines is 2.13 which suggest that they found mining work as dangerous. The average score of their assessment of the danger involved in working underground is 2.03 while they rated the use of compressor in mining, on average, as 2.53. This implies that between the two mining conditions, respondents found working underground as more dangerous as compared with the use of compressor. Similarly, 66.1 per cent said that there is also danger involved when one spends so much time in water (e.g. gold panning). Among the dangers mentioned are: extreme cold (75.6 per cent); skin infection (33.1 per cent); insect-borne illnesses (3.1 per cent); lung diseases; stomach pain; stroke; pneumonia; and drowning.

A miner from Paracale said, “Unang-una po ang pagkakabod ay napakahirap talaga, syempre lalo na yung underground mining syempre lulusong ka sa malalim na balon, wala kang makikita kung wala kang takip ng lampara. Kaya may mga pagkakataon na pwedeng mag collapse kung walang mga depensa, kung walang mga proteksyon. Pangalawa yung kuryente, kung gumagamit ka ng kuryente doon sa ilalim isa iyon sa mga problema kung walang mga pamamaraan ng kaligtasan

¹⁰²Long, Rachel, Kan Sun and Richard Neitzel. 2015. “Injury Risk Factors in a Small-Scale Gold Mining Community in Ghana’s Upper East Region”. *International Journal of Environmental Research and Public Health*. Aug; 12(8): 8744–8761. Available html <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC455245/>

maaring makuryente ang isang operator at pagkatapos yung mga mahulugan ka ng bato na hindi mo maiwasan lalo kung wala kang helmet”. (First, ASGM mining is very difficult. This is especially true of underground mining because you go deep into the tunnel. You cannot see anything underground when you have no cap lamp. There are times the walls could cave in, especially when there are no girders to protect he walls. Second, is electricity. If you use electricity in the tunnel that becomes a problem if there are no existing safety procedures. You can get electrocuted. There are also debris that you cannot avoid when you do not have a helmet).

In Casalugan, Paracale, FGD participants shared that several deaths have been documented after miners either drowned or were buried alive when the wall of the above ground tunnel for compressor mining caved in. Compressor mining involves a ten to 15 feet water filled well, where miners dive using a compressor hose as their oxygen line. The walls are narrow mud walls that could cave in because of the softness of the mud. This is exacerbated by miners excavating the floor of the well for gold.

4.4.2 Lack of protective behaviours. Despite the nature of ASGM, one in four of those who ever worked in the mines did not know of ways to protect himself/herself from work related risks. It does not come as a surprise then that one in four workers also reported experiencing work related injuries. Sometimes, the lack of protective policies of ASGM operators actually contributes to work-related injuries or deaths.

In T’boli, there are reports that some operators have no logbooks to monitor the entry and exit of miners in the tunnels. Without a written record of entry, management can easily deny the death of a miner in case the tunnel caves in. Operators also cannot monitor the safety of workers who enter the tunnel without their knowledge as was the case of a miner who died of suffocation when he entered a tunnel without management’s knowledge.

There is also the absence of information on safety and protective behaviours in the mines. Usually information given is not given through formal training as is done in big corporations but through induction by bosses or fellow miners. This is reflected in the low numbers of respondents reporting that safety information has been provided to them by financiers (30 per cent), local government (12.6 per cent) and Miners’ Association (5.3 per cent) (Table 16). More than a third cited other sources of information such as Ban Toxics, their own experience, own initiative to find information, safety inspector, mining company and cooperative.

Table 16. Source of information on safety and how to protect one’s self in the mines (multiple response)

	Frequencies	Percentage
Financier	57	30.0
Miners’ association	10	5.3
Local government	24	12.6
Others	67	35.3
Do not know how to protect one’s self	43	22.3
N	193	

There are also problems with monitoring the safety conditions of ASGM operations. By law, the PMRB is tasked to regulate the safety of small-scale mining operations in coordination with LGUs that have the police power to enforce safety rules governing small-scale mining.

According to DENR Administrative Order No. 1997-30, a safety inspector from the PMRB is required to conduct a daily routine inspection of the mine and its premises; report findings of the daily inspection on the following variables ventilation, sanitation, unsafe conditions, unsafe acts/conditions and working procedures. However as Engineer Esteban Martin of the Mines and Geosciences Bureau reveals, the PMRB does not have the requisite number of staff to monitor the operations of small-scale mines considering their numbers as well as the size of the provinces involved. Ideally, the mining inspectors should be supported by the LGUs in monitoring the mines, however, in many cases, they do not get such support from LGUs. This is because of an array of interrelated reasons: LGUs do not bother to stop the miners despite violations to safety standards because they recognize the miners have no other sources of livelihood. LGU officials from the LCE to barangay officials may actually have a stake in mining operations as financiers or as friends or relatives of financiers, mining keeps the local economy going, among other things.

Thus, unsafe practices are left unchecked, which contributes to their persistence. In a FGD with a miner's association members in Camarines Norte, they noted that the mining moratorium issued by the DENR to all ASGM operations has forced many miners to engage in underground activities to avoid apprehension, which has further compromised their safety.

4.4.3 Use of safety gears. Safety gears are worn at ASGM with almost half (47.9 per cent) of respondents with mining experience reporting wearing safety gears when at work. However, a greater percentage (52.6 per cent) of respondents do not wear safety gear. Interestingly, there are more miners (82 per cent) in Camarines Norte who reported not wearing safety gear compared to South Cotabato (25.5 per cent). There is high percentage of miners in South Cotabato (74.5 per cent) who reported wearing safety gear as this has been required by the miner's association among its members.

For those who wear safety gear at work, 42 per cent said they provided it themselves, while a slightly higher proportion mentioned their "boss" as the provider of safety gears.

Among those who reported to have used protective gears while working in the mines, head and face protective gears were the most common (81.5 per cent and 51.1 per cent, respectively) (Table 17). There were also gears for their ears and eyes, as well as body protective gears and reflectors. Other gears mentioned were boots, flashlights and hand gloves. There is saying whether the safety gears are up to acceptable standards. During the field visits in Camarines Norte, miners only wrapped a shirt or face towel to protect their face from dust. None of the workers observed by the researchers wore any helmet to protect themselves from falling debris. Some wore boots to protect their feet from the water especially those in the panning areas or in the compressor mining areas where the ground is wet and muddy, but there are others who did not. This means that the use of safety gears is really provisional, more than a requirement for the workers' protection. On the other hand, in one of the compressor sites, the miner who went underwater only had old goggles to protect his eyes. In the barangays of Desawo and Kematu in T'boli, workers commonly wore boots and helmets.

The higher percentage of safety gear use in South Cotabato is because of the requirement imposed by mining associations.

Table 17. Type of protective gears provided (multiple response)

	Frequencies	Percentage
Head protection	75	81.5
Face protection (mask)	47	51.1
Protection for the eyes	20	21.7
Protection for the ears	7	7.6
Reflector	17	18.5
Body protection	12	13.0
Others	60	65.2
N	93	

5. WORK ISSUES OF THOSE WHO HAVE NEVER WORKED FOR ASGM

Among respondents who never had any engagement in mining work, a large proportion relies on small businesses like retail or trading (44 per cent). Other jobs include: farming (15.3 per cent), domestic work (4 per cent), construction (4 per cent), and others such as teaching, hotel staff, among others. 28 per cent said they are not working.

The average monthly income of this group of respondents is Php3,465.50 (s.d. 5002.16). However, if those without income is excluded, the mean income of individuals who do not have mining work experience is Php4,981.64 (s.d. 5333.14). In both cases, mean income is lower than what the average monthly income of individuals who have ever worked in the mining industry. When we consider this, we begin to understand why community members are lured into mining. Mining is still considered more lucrative compared to other available jobs in the community because miners still earn relatively more than other workers in the community especially when there is significant gold find. The prospect of getting significant gold haul also drives miners to remain in the industry.

Because most of the available work in the community involves informal work, it does not come as a surprise that two-thirds said that their income is not enough to meet the day-to-day needs of their family. Interestingly, the economy of non-miners is also dependent on the financial status of mining in the community. In a FGD with barangay officials in the Camarines Norte, the participant shared that the community economy is dependent on ASGM economy. When ASGM was halted following the order of then DENR Secretary Lopez in 2016 to put a stop to small-scale mining on account of it being illegal,¹⁰³ the respondent shared that the economy also slowed down.

“Ito po ay nagsimula noong magkaroon ng cease and desist order (CDO) dito sa Camarines Norte na pinatigil lahat ng mining operations, small-scale or large-scale na kung saan ay naapektuhan ang kabuhayan ng mamamayan.... marami na rin po kasing nabiktima ng panghuli, nakukulong, nagmulta na hindi kami nakapaghanda doon sa ganoong sistema kasi wala naman malinaw na kumbaga hindi masyadong naipaliwanag sa mga mamamayan yong layunin noong CDO. Ibig sabihin, dito po kasi sa amin sa Paracale humigit-kumulang 80 porsyento ng mga mamamayan ay konektado sa mining. Kapag nawala ang mining operation, lahat ng sektor po ay apektado, negosyante, transportasyon, pag-aaral ng mga bata lahat po iyan ay matatamaan”. (The [mining association] started when the cease and desist order was released here in Camarines

¹⁰³Simeon, Louise. 2016. “Government Halts Operations of Small-Scale Mining”. *Philippine Star*. 9 August. Available html <http://www.philstar.com/business/2016/08/09/1611391/government-halts-operations-small-scale-miners>

Norte where all mining operations, small-scale or large scale, were halted. This affected the livelihood of many. A lot were apprehended, jailed, fined. We were not prepared for that system because it was not properly explained what the purpose of the CDO was. Here in Paracale, more or less 80 per cent of the community members are connected to mining. When mining operation is discontinued, all sectors are affected: business, transportation, even the schooling of children).

Majority of respondents (69.7 per cent) who have no mining work experience know someone aside from their relatives who work in the mines.

When asked if miners in their community receive fair income for their work, 31 per cent answered in the affirmative, 34 per cent said no, while 33.8 per cent said they did not know. Majority of the non-miner respondents (64 per cent) also said that miners do not receive adequate benefits. Only 2 per cent said yes, while 32 per cent said they did not know whether the miners receive benefits. Most (60 per cent) are also aware that labour laws are not strictly enforced.

Aside from perceived lack of adequate salary and benefits for miners, non-miners are also aware of the conditions that miners are facing in their work. The most common conditions cited are miners' exposure to extreme heat and cold, being soaked in water and mud and exposure to fumes.

However, awareness does always translate to action or to improve attitude towards the conditions of miners. From informal interviews there appears to be a level of indifference towards the plight of miners as well as issues faced by the ASGM community.

There is a high awareness of wage and benefits issues faced by miners in the community because of the extent of ASGMs influence in the community. However, there is still a significant portion of non-miner respondents who are not aware of the issues faced by the miners.

6. USE OF MERCURY IN PROCESSING GOLD

Exposure to mercury poses greater risks to two groups of people: fetuses and people who are regularly exposed (chronic exposure) to high levels of mercury such as people who are occupationally exposed to the element¹⁰⁴.

6.1 Exposure of miners to mercury

Despite the prohibition of mercury use in small-scale mining as per DENR Administrative Order No. 1997-30, a significant number of respondents working in the mines reported use of mercury with close to half (48.4 per cent) saying they used mercury in processing gold. Of these people, more than half (53.8 per cent) also reported having held mercury in the past 12 months.

However, interesting to note are the lower percentage of respondents in South Cotabato who reported using mercury compared to those from Camarines Norte. Some 92.2 per cent of the respondents from Camarines Norte said they use mercury in mining, while only 10.1 per cent from South Cotabato said the same. On the other hand, 7.8 per cent of the respondents from Camarines Norte said they do not use mercury, while a high 89.9 per cent of respondents from South Cotabato answered in the negative.

¹⁰⁴World Health Organization. 2017. Mercury and Health. Fact Sheet. Available html <http://www.who.int/mediacentre/factsheets/fs361/en/>

Within the past 12 months, 48.8 per cent of those who reported handling mercury have inhaled smoke coming from burning mercury. When asked if they used any protective gears against mercury, only a quarter answered in the affirmative. The most common is the mask, or in some instances, cloth to cover their nose when they have to process gold using mercury. It must be noted that only a special mercury vapor mask made of carbon cloth can really safeguard a miner from the toxic fumes of burning mercury, which costs over a thousand pesos for over 150 hours-worth of use¹⁰⁵. This only means that many of the workers in mining are precariously exposed to toxic fumes at work.

In South Cotabato, ball mills are found in designated areas where ore is brought by miners for processing. This means that the use of mercury has been concentrated in these areas, limiting the exposure of those working in the mining sites to mercury. There are also processors in T'boli that use the sluicing method according to a key informant. Sluicing is a form of gravity concentration method, an alternative method to mercury use, which employs gravitational and frictional forces to separate gold from heavier particles¹⁰⁶. The designation of specific processing sites and the prohibition of the use of mercury in the mining sites has drastically reduced the exposure of miners in the area to mercury. But this is not to say the practice has been totally eradicated.

There is more widespread use of mercury in Camarines Norte because ore is processed independently by miners instead of being processed in designated areas, which means there is widespread use of mercury and alternative technologies are not yet available or if they are, they are expensive because they require the purchase of big machineries, which mining associations cannot afford, let alone ordinary miners. Large machineries are usually sourced from abroad rather than locally. According to one FGD participant in Paracale, government has to step in to provide alternative technologies to process gold, implying that miners still rely on mercury because it is the cheapest available resource to process gold and most affordable to unorganized miners like them.

6.2 Exposure of the community to mercury

It is not only miners who are exposed to mercury, but also the community as well. Majority (76.3 per cent) said that processing of gold using mercury was done in areas surrounded by houses. Specifically, 12.9 per cent admitted that they process gold within their residential premises. Fumes from burning mercury easily surround adjacent areas. There are reports that the smell of burning mercury lingers for a time in the atmosphere every time miners burned mercury to isolate gold, thereby affecting unsuspecting residents of the community. But the greater impact is on the household of miners especially if mercury is burnt indoors or within the premises of the miner's house. Mercury sticks to the household walls and surfaces and is re-emitted overtime into the air¹⁰⁷ causing long-term chronic exposure to family members. In Labo, the team was able to observe mining families storing mercury in makeshift huts near their homes. This is also where the miners process the gold using mercury. In some areas, it is reported that some families process the gold in their homes (Figure 2). One child respondent said that his father kept mercury in their house, which he and his siblings were able to access and play with.

¹⁰⁵Mercury Safety Products. No Date. Mercury Vapour Proof Mask. Available html <http://www.mercurysafety.com/mercury-vapour-proof-mask>

¹⁰⁶Falconer, Andrew. 2003. "Gravity Separation: Old Technique/New Methods". *Physical Separation in Science and Engineering*. Vol. 12, No. 1, pp. 31-48.

¹⁰⁷Moher, Paleah Black. 2013. "Mercury Recycling in Artisanal Gold Mining: The Good and the Bad." *Artisanal Gold Council*". Available html <http://www.artisanalgold.org/publications/articles/mercury-recycling-in-artisanal-gold-mining-the-good-and-the-bad/>.

**Figure 2. Mercury is being used to separate gold particles from rocks.
The processing area is behind the house of the miner.**



6.3 Awareness on the ill-effects of exposure to mercury

There is a very high awareness that the use of mercury is dangerous to health with eight in ten mining and non-mining respondents agreeing to the statement that mercury exposure is dangerous to health. Furthermore, almost all of those who said that mercury use is dangerous also agree that inhaling fumes when burning mercury has negative effect on one's health (98.5 per cent). Such negative effects include poisoning, lung problem, death, illnesses among children, skin diseases and shortness of breath. We will see here that knowledge does not necessarily translate to protective actions on the part of the miners.

There is an almost fatalistic attitude towards the use of mercury among miners. In a FGD in Labo, Camarines Norte with barangay officials, the respondents said that unless affordable and accessible technologies to process gold are made available, miners would continue to rely on mercury.

Unfortunately, a good proportion of miners are unaware of any other technology than mercury to separate gold from ores (47.2 per cent). 15 per cent. While others said that there are more ways to do so without using mercury. However, such knowledge is more prevalent in South Cotabato where alternative gold extraction technologies already exist. When probed, respondents mentioned rock grinding, gravity concentration, use of "madre cacao", sunflower and "sayote"

and the so-called Benguet method¹⁰⁸. There were also some respondents who mentioned the natural way, but cannot explain what it is.

According to Engr Martin Esteban of the MGB, cyanide is another alternative chemical used to separate gold particles from ore. It must be noted that cyanide is only toxic in large doses, hence, it is safer than mercury. A dilute solution of cyanide is used in the process¹⁰⁹. Still, the chemical is more expensive and it takes a longer time for miners to process the separation of the gold particles from ore. In other words, it is not as efficient in separating the gold from the ore. Thus, ASGM miners opt for the cheaper, more readily available and “more efficient” mercury in separating gold from ore.

In Paracale, Camarines Norte, FGD participants said that miners have attended meetings and orientations conducted by Ban Toxics on the dangers of mercury use. In South Cotabato, the Municipal Sanitary Inspection Officer shared that the LGU, the DENR and officials from the provincial government conduct inspection missions and lectures in mining areas.

From the survey, there have indeed efforts in providing the miners and the community information. Surveyed respondents reported barangay health workers as the major sources of information on the negative effects of mercury on health (45.1 per cent) (Table 18). Respondents also cited television as a source of information (24.2 per cent), followed by the municipal government (23.6 per cent). Ban Toxics and doctors were likewise mentioned as the sources of information. However, the low percentages citing they received information only mean that a sizeable proportion of community members are not reached by the information campaign conducted by various stakeholders. But even if reached, the information does not automatically translate to protective behaviours. Sometimes, there is a disjuncture between what people know and how people behave, in this case information about mercury will not necessary stop the miners from using mercury.

Table 18. Sources of information on mercury (danger to health) (multiple response)

	Frequencies	Percentage
Ban Toxics	59	18.1
Doctor	59	18.1
Employer	3	0.9
Barangay health worker	147	45.1
Municipal government	77	23.6
Television	79	24.2
Internet	4	1.2
Others	66	20.2
N	326	

¹⁰⁸911 Metallurgist explain that in the “Benguet province, a group of miners have been using the mercury-free gravity-borax method (GBM) for gold extraction for decades. This method basically requires the same equipment as the amalgamation methods. However, after the rod milling, an ore concentrate holding the heavy minerals is produced by using a launder (gold sluice) and a gold washing pan. The heavy mineral concentrate is mixed with borax powder. By blowtorching the mix, the borax melts and the gold sinks to the bottom. It has recently been demonstrated that under identical conditions, GBM yields more gold than the traditional amalgamation method”. Available html . <https://www.911metallurgist.com/blog/mercury-free-gravity-borax-method-gbm>

¹⁰⁹Miningfacts.org. No Date. “What is the role of cyanide in mining?” Available html <http://www.miningfacts.org/environment/what-is-the-role-of-cyanide-in-mining/>

6.4 Disposal of used mercury

But even with information, this is not a guarantee that the right choice will be made in disposing mercury because it could incur additional costs on the part of the informal miners.

Water-laced mercury used to separate gold from ore is usually poured down the soil with 20.1 per cent of respondents saying this, while 15 per cent said it is disposed of through the river or stream. The improper disposal of mercury is further confirmed by the field visit to a “cooking” facility in Camarines Norte, which was located a few meters away from a water well where the family who owns the mining facility get their water for their everyday consumption. In the facility, mercury-contaminated water is directly poured on the soil, which poses dangers to the environment and people. The book *Current Perspectives in Contaminant Hydrology and Water Resources Sustainability* reports that mercury has been found to leach to ground water or affect surface alluvial aquifers that could have negative impact on the community and the environment¹¹⁰.

In areas near rivers, the sludge is drained into the running water. The Municipal Sanitary Inspection Officer of T’boli, South Cotabato reports that in some areas, the “banlas” mining method persists despite this being banned by the LGU. “Banlas” mining “involves the pouring of large amounts of water using high-pressure water jets on a mountain’s surface to extract the rocks containing the gold ore, and then pan them with mercury”¹¹¹. The sludge is disposed of directly into the river system, which the Sanitary Inspection Officer reported has turned the river brown and significantly laced with mercury. And because the river system flows downstream, people from low lying areas are also affected.

Mercury disposed in rivers could produce the more lethal kind of mercury—methyl mercury—which fish ingests and which could affect people who consume tainted fish.

According to respondents, proper disposal of mercury is the responsibility of the financier (46.4 per cent). About 12 per cent said that it is the responsibility of the miners’ association while 6 per cent mentioned the government that has responsibility for such action. A small percentage of respondents (11.3 per cent) said that this is the responsibility of all those involved in mining and even smaller 6.4 per cent said it is the government’s responsibility and an even smaller 2.3 per cent said it is the responsibility of the LGU. Lastly, 15.6 per cent of the respondents said they did not know whose responsibility it is to dispose of mercury. From the figures, we can glean that over 75 per cent of the respondents are aware of the different stakeholders who are responsible for the proper disposal of mercury. However, majority think that the responsibility rests on certain individuals or groups instead of this being a collaborative effort among the government, financiers and miners.

A respondent from Paracale said that they use a chemical that enables them to recycle mercury. Through this, there is no longer the need to haphazardly dispose of mercury. However, it has not been verified whether this method is proven to enable the recycling of mercury.

The sad truth is that even with the awareness of stakeholders’ role in the proper disposal of mercury, without the proper disposal technologies, this will be impossible to achieve. There are three accepted ways of the disposal of mercury: physico-chemical treatment (that stabilizes and

¹¹⁰Barringer, Julia, Zoltan Szabo and Pamela Reilly. 2013. “Occurrence and Mobility of Mercury in Groundwater”. In Bradley, Paul (ed). *Current Perspectives in Contaminant Hydrology and Water Resources Sustainability*. InTech Open Books.

¹¹¹Estabillo, Allen. 2013. “‘Banlas’ mining getting widespread in SouthCot”. *MindaNews*. 28 August. Available [html http://www.mindanews.com/top-stories/2013/08/banlas-mining-getting-widespread-in-southcot/](http://www.mindanews.com/top-stories/2013/08/banlas-mining-getting-widespread-in-southcot/)

solidifies mercury); the use of specially engineered landfill; and the use of permanent storage (underground facilities)¹¹². None of these technologies are being currently used in the study sites. Ideally, LGUs should invest in the construction of disposal facilities.

6.5 Effects of mercury to the environment

Mining and non-mining respondents recognized the negative effect of mercury use on the environment. Among those mentioned are its effects on air quality, water contamination and fish poisoning. There are also a substantial proportion of respondents who are not aware of mercury's effect on the environment (23 per cent), which makes us understand better why the improper disposal of mercury persists. In Tboli, a respondent has noted that the river has become muddy because of mining activities. In Labo, there are talks among community members that the water system is heavily contaminated by mercury, however, they do not seem to be worried about it and accept it as a matter of course. However, in a neighbouring community, it was reported by an informal informant that people are wary of vegetables coming from Labo as there are fears that the vegetables are also contaminated by mercury.

Table 19 presents information on respondents' perception on the effects of the use of mercury to the environment. There is high proportion of respondents who know the negative effects of mercury use on health, food consumption and environment. At the same time however, a substantial number reported not knowing anything about mercury's negative effects. There is very high awareness on mercury as:

- pollutant;
- ingestible by fish;
- dangerous when ingested by humans;
- dangerous when burned and fumes are inhaled by human beings; and
- affecting the ground water system.

Table 19. Perception on some issues regarding mercury use

	Correct	False	Do not know
Mercury pollutes rivers, lakes and seas	76.3	13.4	10.3
The fish can eat mercury disposed in water	68.3	13.4	18.3
Consuming fish contaminated with mercury has effect on people's health	75.3	7.7	17.0
Used mercury thrown in soil does not affect water system	19.8	59.8	20.1
Mercury disposed in rivers can spread to other areas	79.4	11.1	9.3
Fumes coming from burning of mercury do not have effect on people's health	12.6	77.3	9.8
It is easy to detect if someone was poisoned by mercury	29.1	15.2	55.4
One is protected from inhaling fumes from burned mercury by covering one's face with a piece of cloth	67.3	17.3	15.2

However, there is false awareness on how to protect oneself from fumes from burning mercury. There is also little awareness on symptoms of mercury poisoning.

¹¹²United Nations Environment Programme and International Solid Waste Association. 2015. Practical Sourcebook on Mercury Storage and Disposal. Available html https://wedocs.unep.org/bitstream/handle/20.500.11822/9839/-Practical_Sourcebook_on_Mercury_Waste_Storage_and_Disposal-2015Sourcebook_Mercruy_FINAL_web.pdf.pdf?sequence=3&isAllowed=y

The information received about the negative effects of mercury on the environment from the barangay (29.5 per cent), the municipal government (25.3 per cent), television (23 per cent) and Ban Toxics (17.5 per cent) (Table 20).

Table 20. Sources of information on mercury (danger to environment) (multiple response)

	Frequencies	Percentage
Ban Toxics	67	17.5
Employer	1	0.3
Barangay	113	29.5
Municipal government	97	25.3
Television	86	22.5
Do not know	88	23.0
Others	59	15.4
N	324	

6.6 The persistence of mercury use

In reality, mercury should not even be used in mining because of the known deleterious effects of mercury to the health of people and the environment. The IRR of Republic Act No. 6969 identifies mercury as one of the controlled substances whose use, storage, manufacture, import, process or transport is monitored by the DENR. The DENR holds the authority to inspect establishments harbouring mercury and to confiscate or impound those found not complying with the standards outlined in the IRR¹¹³.

However, the DENR seems to be doing poorly in inspecting and confiscating mercury in the communities. In South Cotabato where mercury use has been relatively successfully confined in particular areas, one respondent said:

Mula sa pamahalaan na talagang may panukala sa atin upang maiwasan ang paggamit ng mercury, talagang hinihintay ng mga operators yong oras na yong pamahalaan natin talagang magbibigay sila ng utos, maliban yong sa utos kapag sila na mismo yong tumulong sa atin dito sa operation natin para kami ay tumigil sa paggamit ng mercury. Talagang yong mga operators natin ay talagang makikipagtulungan. (The government has proposed to end mercury use, but operators are still waiting for the time for the government to give an order to really end its use, aside from the order coming from the LGU when we have operations here to stop operators from using mercury. [When the day comes], our operators will cooperate).

Despite the existence of policies banning the use of mercury in small-scale gold mining such as the IRR of RA No. 7076, the respondent has the impression that the government has not been resolute in stopping the use of mercury. While the Municipal Environment and Natural Resources Officer (MENRO) of T'boli conducts site visits from time to time to check mining operations, including the use of mercury and stops those who are found using the illegal chemical, however, there has been no concerted crackdown to stop its use. For the MENRO and the PMRB, it is

¹¹³DENR Administrative Order No. 29. Series of 1992. Implementing Rules and Regulations of Republic Act No. 6969. Available html <http://pod.emb.gov.ph/wp-content/uploads/2016/06/DAO-29-1992-Implementing-Rules-And-Regulations-of-Republic-Act-6969.pdf>.

difficult for them to inspect ASGM given the lack of staff, which is aggravated by the scope of the area of their jurisdiction, which stops them from monitoring all areas regularly.

A local government official from Labo, Camarines Norte said that there was no point in stopping the miners from using mercury. This is because stopping them will mean their family will go hungry because for many, mining is the only livelihood they know. Thus, the lack of resoluteness in enforcing the law and the Minamata Convention which government ratified to eventually phase out the use of mercury due to the lack of alternative jobs for miners and also pity at the possibility for the miner of losing his or her source of livelihood. Also, the local government officials are turning a blind eye on the problem.

On the level of the DENR and EMB, there is a failure to enforce the law because of staffing shortages. They have no staff to monitor the mining going in various mining areas all over the country. LGUs, which the DENR can tap for monitoring of mercury use, alternatively, is not cooperative.

Moreover, according to Gerry Sanes of the EMB, mercury used in ASGM is mostly acquired from the black market by miners. Suspicions abound that local dentists might be involved in the illegal trade of mercury since they have the authority to legally import, buy and use mercury or that mercury is being brought to the local communities by Chinese financiers or traders. When asked where they source their mercury from, local miners are almost always reluctant to divulge such information. One respondent from Paracale, however, identified buyers of gold as the ones supplying mercury. In T'boli, miners source their mercury from the Davao black market at Php5,000 to Php10,000/kg (US\$98.40 to US\$197). Mercury was introduced in T'boli by immigrants from Tagum during the gold rush of the late 80s. There are also suspicions that local officials are in cahoots with the illegal trade of mercury because some of them are actually involved in ASGM as financiers or perhaps they receive bribes from traders, hence there has not been a serious crackdown in the trading of mercury.

Respondents of FGDs and interviews are almost resigned with the idea that with the persistence of poverty, the lack of alternative livelihoods that will enable them to earn as much and as quickly as in mining, and the lack of alternative technologies to separate gold from ore, miners will continue to stay in the industry and to use methods of gold retrieval that are dangerous to people and the environment. While there are available alternative green technologies to separate gold from ore, the technologies are not yet widely available, especially in Camarines Norte. Miners in Paracale also reported that alternative technologies have already been shown to them, however, there is a sense of apprehension in using these methods over the old method of using mercury. He said, “Mayroon ng ipinakita sa amin sa pamamagitan ng demonstrasyon noong sa mga lumang pamamaraan na parang ano lang, binubukod lang parang manu-mano talaga siya na kumbaga medyo mahabang pamamaraan, talagang matrabaho siya, matapon siya. Kaya iyon yong una pa lang na pinakikita sa amin”. (We were shown through demonstration old methods of separating [gold], but the procedure was manual, it took longer to perform, it requires a lot of work, and it was inefficient and led to wastage of gold).

Engr. Esteban Martin of the MGB said that it would not be simple to provide alternative technologies in ASGM sites because of the complex characteristics of ore in the Philippines. Some are coarse and some are found in mud piles. The different characteristics require different ways of processing the gold to enable the efficient and most effective recovery of gold.

7. HEALTH CONDITION AND HEALTH SEEKING BEHAVIOURS

Majority of all the respondents considered themselves to be of fair health (47 per cent) while 36 per cent are of good health (Table 21). Only 10.9 per cent said their health is poor and 2.3 per cent said that their health is in very poor condition.

Table 21. General health condition

	Frequencies	Percentage
Very poor	9	2.3
Poor	42	10.9
Fair	182	47.0
Good	139	35.9
Very good	15	3.9
N	387	

A little over half (54.2 per cent) of all respondents have experienced some forms of illnesses in the past year (Table 22). The most common was fever as experienced by six in ten respondents. This was followed by cough, at almost the same percentage as fever. 45 per cent reported suffering from headaches while 30 per cent said they felt muscle weakness and another 27 per cent, of muscle pain. 22 per cent said they had other forms of medical conditions, low blood or anemia, epilepsy, arthritis, sleeping disorder, kidney problem, hepatitis, UTI, thyroid problem, lung problem, ulcer, among others.

Table 22. Illnesses experienced the past year

	Frequencies	Percentage
Fever	128	61.0
Cough	125	59.5
Muscle weakness	63	30.0
Muscle pain	57	27.1
Tingling of the hands and feet	44	21.0
Headaches	95	45.2
Eye problems	44	21.0
Skin problems	19	9.0
Stomach problems/diarrhea	18	8.6
Breathing problems	28	13.3
Extreme fatigue/tiredness	37	17.6
Forgetfulness	22	10.5
High blood pressure	40	19.0
Diabetes	4	1.9
Others	47	22.4
N	387	

Some 77.1 per cent of those who complained of illnesses in the past year sought medical attention. They were more likely to visit a health center (38.9 per cent) for their health needs, followed by hospitals (37.7 per cent). Private doctors attended to 16.7 per cent of respondents who had some form of medical condition (Table 23).

Table 23. Health service provider for symptoms of medical illnesses (multiple response)

	Frequencies	Percentage
Private doctor	27	16.7
Health center	63	38.9
Hospital	61	37.7
Company doctor	3	1.9
Traditional healer (albularyo)	12	8.0
N	162	

In most instances, expenses for medical services were out of pocket since PhilHealth covers only a portion of inpatient bills and does not cover medical consultation or the purchase of medicines. Almost 40 per cent of respondents who had some medical condition the past year had to pay for their own medical needs. A third availed of free medical services from the government, while 11.1 per cent have PhilHealth coverage.

Despite being sick, four in ten still continue to work.

While sick, respondents' household was able to sustain itself through the spouse's work (52.5 per cent), children's work (21.2 per cent), borrowing money from neighbors and relatives (15.3 per cent).

Table 24. Ways the households was able to support its needs while respondent was sick (multiple response)

	Frequencies	Percentage
Spouse has to work	62	52.5
Got loan from loan sharks	1	0.8
Children have to work	25	21.2
Borrowed money from neighbors/relatives	18	15.3
Ask help from parents	10	8.5
Ask help from cooperatives	2	1.7
Borrowed money from rural or commercial banks	5	4.2
No source of income	8	6.8
N	118	

One in four respondents also reported that they experienced being wounded, and/or fractured because of work and majority of them sought medical treatment for their condition (69.9 per cent). The health centre was the most common source of health service provision (46.2 per cent), followed by traditional healer (26.2 per cent) (Table 25).

Table 25. Health service provider for accidents and injuries (multiple response)

	Frequencies	Percentage
Private doctor	6	9.2
Health center	30	46.2
Hospital	15	23.1
Company doctor	1	1.5
Traditional healer (albularyo)	17	26.2
N	65	

While recuperating from their condition, close to half (47.3 per cent) of those who experienced being injured continued working. At the same time, they got support from their spouses (40.8 per cent), as well as from their children (18.4 per cent) (Table 26). More than a quarter also resorted to borrowing money from neighbours/relatives in order to provide for the needs of the household.

Table 26. Ways the households was able to support its needs while respondent was recuperating from accidents and injuries (multiple response)

	Frequencies	Percentage
Spouse has to work	20	40.8
Got loan from loan sharks	1	2.0
Children have to work	9	18.4
Borrowed money from neighbours/relatives	13	26.5
Ask help from parents	2	4.1
Ask help from cooperatives	2	4.1
No source of income	4	8.2
N	49	

8. ACCESS TO SOCIAL PROTECTION MECHANISMS

Social protection is “the set of policies and programmes designed to reduce poverty and vulnerability by promoting efficient labour markets, diminishing people’s exposure to risks, and enhancing their capacity to protect themselves against hazards and interruption/loss of income”¹¹⁴. Vulnerability and poverty may be worsened by risks such as natural disasters, civil conflicts, economic downturns, household reversals, crop failures, unemployment, illness, accident, disability, temporary job loss, loss of informal support networks and other threats to the future of the household and its members¹¹⁵.

One of the more notable programmes of the government for poor Filipino families is the CCT Programme, otherwise known as the 4Ps programme, which provides cash subsidies to the poorest Filipino families provided they send their children to school and bring them to health centres.

Despite the socio-economic conditions of the respondents whose average family incomes fall below the poverty threshold of Php9,064 (US\$178) average monthly income for a family of five to meet both basic food and non-food needs¹¹⁶ and the food threshold of Php6,329 (US\$124) for a family of five to meet their basic food needs, only 30.9 per cent of the respondents are enrolled in the DSWD’s CCT programme. For 4Ps beneficiaries, they consider the cash incentives they received as “very helpful” in meeting their daily needs. Some 68.8 per cent of the respondents are not enrolled in the programme. There are indications both from the quantitative and qualitative data that some deserving families have not been included in the programme.

In an interview with women miners (*nagkukulipaw* or those who scavenge for excess ore in ASGM operations) from Camarines Norte, one of the miners who is the sole breadwinner of the

¹¹⁴Asian Development Bank. 2003. Social Protection. Available html <https://www.adb.org/sites/default/files/institutional-document/32100/social-protection.pdf>

¹¹⁵Ibid.

¹¹⁶Philippine Statistics Authority. 2015. 2015 Poverty in the Philippines. Available html https://psa.gov.ph/sites/default/files/2015_povstat_FINAL.pdf

family, has 11 children, and currently earns less than Php6,000 a month, said she is not a member of the 4Ps programme because she is not allied with local barangay officials who were instrumental in identifying the beneficiaries of the programme. There are also allegations coming from some miners from Camarines Norte that barangay officials inserted the names of family members and friends in the 4Ps list, which denied rightful beneficiaries the chance to be included. Although the mayor denied that the identification of beneficiaries is tainted by political considerations, in any case, the miner's case illustrates that there are families deserving to receive the assistance but do not. The mayor admits that the 4Ps selection process has not been without faults.

In the absence of direct help from the government, families rely on loans to sustain the needs of their families. Some 66 per cent of the total number of respondents said they borrowed money over the last two years. The most common sources of loan were lending companies/microfinance companies (51 per cent), such as local credit unions and NGOs. Informal sources were relatives and neighbours (30 per cent and 18.2 per cent, respectively). There was also a small percentage that relied on loan sharks (6.3 per cent). In a FGD, another source of loan was the gold buyer, whom miners develop a trusting relationship with through regular transactions (Table 27).

Table 27. Source of loan (multiple response)

	Frequencies	Percentage
Boss/Supervisor	14	5.5
Spouse	1	0.4
Relatives	76	30.0
Neighbours	46	18.2
Loan sharks (Bombay)	16	6.3
Cooperative	9	3.6
Rural bank	4	1.6
Micro finance/Lending	129	51.0
N	131	

The amount borrowed ranges from as low as Php100 (US\$1.96) to as high as Php500,000 (US\$9,815). The median amount borrowed is Php5,000 (US\$98.15). 66 per cent had to pay interest for the loans they acquired and the rate varies widely (from 0.5 per cent to 30 per cent). Common uses of loans were: daily needs, education of children, medical needs of family members and construction/repair of houses. Respondents claimed that they were able to pay back their loans (83.5 per cent).

Of those who borrowed money over the last two years, there were more women (57 per cent) who took out a loan compared to men (43 per cent). In Philippine households, women household heads are more likely in charge of budgeting the family finances.

Almost a quarter of respondents said they received financial support from institutions in the past six months such as LGUs (Office of the Mayor), DWSD, Catholic Church and DOLE. Only 7 per cent of respondents said that they received free vocational training by the municipal government and the Technical Education and Skills Development Authority (TESDA) in the past two years, such as cooking, welding, dressmaking, caregiving and electronics. In terms of reach, out of the total respondents, the reach was very small. Almost half of the respondents who received training said that they were able to use the training for livelihood activities. Among those who were not able to use the skills they acquired, they cited reasons such: as lack of capital to put up their own business, were too busy with their family responsibilities; and or they pursued other interests.

The mayor of Labo, Camarines Norte shared an interesting view of the livelihood programmes: “Ang livelihood programme na binibigay naman ng gobyerno ay pampakalma lang eh. Di naman talaga mapatili. Maglalaan ka ng pondo, ibibigay natin, ipatutupad natin ngunit pagkatapos nito, pagdating sa gobyerno di naman nagbibigay ng puhunan ang gobyerno. Bibigyan ng kagamitan, bibigyan ng kung anu ano pero bibigyan ka ng pera pero hindi ito pinapayagan, paano ko naman iyan papatakbuhan kung wala akong puhunan? Paano ako magluluto kung wala naman akong lulutuin?” (The livelihood programme given by government is a palliative programme. It is not sustainable. They allocate funds, award the funds, implement the programme, but the government does not give capital. They will give you equipment, you will be given various things but you are not allowed to be given money, how will you run the business without capital? How will you cook if you do not have anything to cook?) Given this, after a time, those given training just go back to mining.

Aside from training programmes and financial assistance, close to 20 per cent of respondents said that their children were able to avail of educational assistance, mainly from the municipal government and the national government. In both areas of Camarines Norte and South Cotabato, scholarships have been made available by the LCEs.

When the mines were closed in Camarines Norte through the order of then DENR Secretary Lopez, the livelihood of many miners was affected. There were miners who were apprehended and jailed for continuing their mining activities. Mining Association members from Paracale revealed that apprehended miners were being charged Php25,000 for bail, which pushed them to an even more precarious economic condition. But the effects were not only for the apprehended miners. With the uncertain of small-scale mining operations in the area, the president of the mining association in Paracale shared that businesses dependent on mining slowed down, students had to stop schooling to find work in other communities, and poverty worsened because of this. However, it seems there has been no effort on the part of government to mitigate the social impact of the stoppage of ASGM activities in the area.

9. CHILD LABOUR ISSUES

Thirty eight per cent of respondents said that there are children below 18 years old who are helping in the mines in their community. This means that a sizeable number of respondents admit that child labour persists despite child labour laws. In South Cotabato, an ordinance was passed banning children from working in the mines. This has reduced the number of children working in ASGM particularly those involved in dukduk (manual breaking of ore), however, respondents said the problem persists because they are now doing this on the sly at home, out of the scrutiny of government officials.

Their involvement is prompted mainly by poverty (49 per cent) as well as the child’s desire to help their parents (23.5 per cent) according to the survey respondents. One of the child FGD participants, Sherwin (not his real name) shared that he had to stop school because his parents could no longer afford expenses for his education and it is his duty to help feed the family. He had to stop in his sophomore year to give way to his younger siblings completing school.

Connected with this is the fact that children see mining as a lucrative endeavour, which allows them to earn money they will never earn elsewhere. For instance children FGD participants from a barangay in Camarines Norte shared that they could earn as much as Php1,000 a day if there is a good haul of gold on a particular day.

9.1 Demographics of child labour

According to respondents, children as young as 7 years old are already assisting in the mines. The mean age of children working in the mines based on respondents' answers is 13.5 years old (s.d. 2.430). A respondent from Paracale said that the miners cannot do anything to stop the children when they themselves prefer to work in ASGM. He says, "Sa amin po hindi talaga naman pinapayagan ang bata, kaya nga lang may mga pagkakataon na may mga bata na nanghihingi rin. Kumbaga siguro iyong yung mga pamilya na talagang marginal, mga mahihirap din, mga ano din na siguro sa kawalan din naglalakas loob na ang mga bata na manghingi, pero wala kaming inoobliga na mag trabaho sila kasi bawal naman talaga siya". (We really do not allow children here. However, there are times when the children beg to be given ore. They are most likely from marginal families so they muster enough courage to ask. But we do not oblige them to work because it is really prohibited). Adults empathize with the plight of children from marginal families, thus, the children are given a portion of ore, which the children pan for gold.

Table 28 presents the different activities that children undertake when they get involved in mining work. The most common are gold panning (60.1 per cent), hauling (46.6 per cent) and processing (35.1 per cent) of ores.

**Table 28. Activities of children below 18 years old in the mines
(multiple response)**

	Frequencies	Percentage
Hauling ore	69	46.6
Ore processing (manual breaking of ore)	52	35.1
Gold panning	89	60.1
Ore processing (separation of ore from gold using mercury)	33	22.3
Digging	36	24.3
Diving underwater (pagsisid sa ilalim ng tubig)	18	12.2
Going into small holes (pagsuot sa mga maliliit na butas)	20	13.5
Others	29	19.6
N	148	

There is no set time as to the work of children because of the informal and unstructured nature of work. Often, the work hours of children are the same as adults. There were reports from FGDs where there are days when children work for 24 hours. When they work long hours, FGD participants reported taking breaks in between when they are too tired. FGD participants shared that when they have to work overnight, they are allowed to take short naps provided there is reliever to replace them. The long work hours are especially true of children who work full time in the mines and have left school. However, for those who remain in school and still choose to work, they work on weekends or after school on a part time basis.

Interestingly, miners from Paracale revealed that children are also expose to mercury when they pan for gold. One 16-year-old respondent from T'boli, shared that his father used to bring home ore, which family members hammer to separate the gold particles from the rocks. The father also brought mercury with him, which he just kept in one corner, which the respondent played with when he was younger.

Four in ten respondents said that children received the same amount of payment as adult when they work in the mines. 16 per cent, however, do not know if adult and children are paid the same amount for their work in the mines. Majority (90.4 per cent) said that children do not get PhilHealth benefits from their mining activities.

In the FGDs, it appears children are paid less than their adult counterpart. Anlyn, 17 years old from T'boli, who used to work for ASGM, shared that they were paid from Php70 to Php150 for a high grade sack, the contents of which they manually pound to separate the gold particles from the rocks. Another child from T'boli who used to work for a ball mill when she was in fifth grade was paid Php50 per sack. Also, some adults conned children by paying them less than they deserve according to the FGD participants. One participant explained it this way: "Minsan dinadaya ang mga bata ng mga nakakatanda. Tapos sinasabi sa kanila, ito lang sa iyo kasi mas malaki ako mas marami akong kinakain. Mas marami akong pinapaaral. Ikaw, ang sarili mo lang naman". (Sometimes, adults cheat children. They would say, this is what I will give you because I am bigger than you and I eat more than you do. I have several children to send to school. On the other hand, you just feed for yourself).

9.2 Consequences of child labour in ASGM

One immediate consequence of children's involvement in mining activities is the disruption of education. Three in ten respondents reported that in their communities, children have to stop studying when they start assisting in the mines. 42 per cent on the other hand said that while there are children who have to stop schooling, there are also others who continue studying despite being involved in mining activities.

When asked why children have to stop studying, majority (38.9 per cent) mentioned that work is more important for children than school. This is illustrated by the case of Christian (not his real name) who decided to quit school because his parents were both unemployed. He assumed the role of breadwinner of the family, which means the survival of the family was hinged on Christian's capacity to earn for the family. Choosing between school and family welfare, children choose the welfare of their family, because it is the most practical decision given that it would spell the survival of their family. They no longer see the potential of education to change their life in the future.

In the case of Malaya, Labo, Camarines Norte, adult FGD participants said some children were forced into mining because there was no high school in their barangay. The local high school was located outside the barangay, which made travel to school expensive (Php200). In the absence of school and other livelihood opportunities, children are left with little choice but to go into mining.

There are also those who want to earn money so that they can continue with their studies later on (23.3 per cent) some parents cannot afford to send them to school. Thus, for them, working is temporary and is done to accomplish the goal of finishing formal schooling at some point. One of the problems cited by the children participants was that while high school education was free, the schools require numerous miscellaneous fees such as fees for the report card that costs Php400, school projects, floor wax and brooms, electric fans, among others. In fact, one of the reasons Christian cited for dropping out-of-school was that the family did not have money to pay for these extra requirements from class. Aside from these, students also worry about daily allowances.

Majority of respondents (67.1 per cent) said that ALS is also available in the community. There are some who access this, but there are those, especially those who work full-time in the mines, who have declined the opportunity to finish school through ALS because of time constraints and their interest has to do with earning money more than finishing school. Others are

also more interested to go back to the formal school system or to save enough money to enroll in vocational courses through TESDA.

9.3 Reasons for the persistence of child labour

Interestingly, a significant number of respondents (42 per cent) think child labour persists in their community because the practice has endured for generations, in other words, people have been raised into a tradition or culture that finds child work in ASGM as acceptable. In fact, 32 per cent of the respondents who ever worked for ASGM started working in the mines when they were 17 years old and below, with a small proportion starting work in ASGM as young as 8 years old (five individuals). The initiation of children into work in the mines mirrors Pierre Bourdieu's theory of social reproduction, which states that "parental codes and practices" are "transmitted to children through the process of family socialization"¹¹⁷. This is validated by the sharing of child FGD participants who said their fathers introduced them to work in the mines to enable them to contribute to the family finances. One boy, Marco (not his real name), who started working when he was six years old, was initiated slowly into work in the mines. At the start, he merely ran errands for the miners such as bringing food, later, when he was a bit older, he was asked to go under water for compressor mining. Another boy, on the other hand, was recruited by a financier aunt to work for her ball milling operations. Some children started out watching their parents work, bringing food or water for miners, move on to breaking ore with hammers, when they are big and strong enough, they start hauling ore or "cooking" gold, among others. Getting immersed into the mines very early on has limited their area of possibility to mining. Although parents regret mining as difficult work and that they would not want their children to be involved in mining, children's constant exposure to mining has made it a natural option for them. It has become an acceptable future, especially if other futures have not been made possible through education.

For some, there is a lot of pride in being able to help in the family finances. One child FGD participant thinks that it was more productive for him to be in the mines rather than in school because it enabled him to put food on the family table and to take care of the family. There is even a joke among the child miners who left school that in school they earn a grade of 70, but in ASGM they could earn Php100 in a day. Thus, any effort to limit child participation in ASGM work would need to combat three things: cultural practices; personal values of the children and their families; and the ability of work to put food on the child's family's table (Table 29).

While cultural practices can be modified, especially with the enforcement of strict laws prohibiting certain community practices, problems in the implementation of laws could get in the way of limiting practices that might be contrary to the welfare of children. Some 13 per cent of respondents who shared children still work in ASGM explained that the persistence of child labour in the community is due to the fact that laws are not strictly enforced. On the other hand, 7 per cent were of the opinion that LGUs are negligent in monitoring ASGM, while 8 per cent said that people are not aware of laws prohibiting the practice.

¹¹⁷Tzanakis, Michael. 2011. "Bourdieu's Social Reproduction Thesis and The Role of Cultural Capital in Educational Attainment: A Critical Review of Key Empirical Studies". *Educate*. 11 (1): 76-90. Available html <http://www.readyunlimited.com/wp-content/uploads/2015/09/Bordieus-Social-Reproduction-Thesus-and-Role-of-Cultural-Capital-in-Education.pdf>

**Table 29. Reasons why there are children working in the mines
(multiple response)**

	Frequencies	Percentage
They are paid very little amount	2	0.6
Laws are not enforced strictly	41	12.6
Local government are not monitoring the mines	24	7.3
Parents force their children to work in the mines	8	2.4
Employers do not ask for real age of miners	6	1.8
It is the usual practice that children work in the mines	137	41.8
People do not know of the law against child labour	27	8.2
N	328	

The case of Labo, Camarines Norte is informative of this. The LGU is aware of the problem of child labour in the community, however, it is difficult to control child labour in their community because when LGU officials and representatives monitor the mines, the children are nowhere to be found or if caught, they deny their age. Interestingly, in spite of this, the age of children can easily be verified by the LGU through birth or school records, if the LGU is determined enough to stop child labour. They have tried to provide scholarships to enable at least one child in each family from rural communities to graduate from school, but the children prioritize work over schooling. The mayor says, “imbis na pumasok sa eskwelahan, maghahanapbuhay na muna ako, magkakabod muna ako kung ano man pwedeng pagkakakitaan” (instead of going to school, I prefer to work first, I will go into mining or whatever job to earn money).

The LGU official also adds that they are not inclined to implement the law fully because work serves as an important support for the children and their families because mining is more often and their only source of income.

There is also the tendency for barangay officials to deny the existence of the problem. When the research team went to a barangay in Camarines Norte, the barangay officials said all the children were in school because they are no longer allowed to work in the mines. Nevertheless, when the researcher chanced upon a young boy, she found out the miner was only 16 years old. Thus, the barangay officials could be in denial of the continuing existence of the problem, they are turning a blind eye on the problem, or they are also part of the problem because there is no drive to fully enforce the law. In another instance, a barangay official said that when confronted, children deny their age, which could be easily verified by checking birth or school records.

There is general consensus among respondents that only those who are 18 years old and above should be allowed to work in the mines. When asked if there is a law that prohibit the involvement of children aged 17 years and below from working in the mines, 85 per cent of respondents said there is. Only 8.5 per cent do not know of any such law.

For most respondents, they consider the municipal government as the one who should be responsible in enforcing the law on child labour (60.4 per cent). Parents (56.4 per cent), barangay officials (45.1 per cent) and the national government (33.5 per cent) were also mentioned as responsible for the implementation of the law (Table 30).

**Table 30. Person/organization responsible in enforcing the law
(multiple response)**

	Frequencies	Percentage
Parents	185	56.4
Miners' association	77	23.5
Barangay officials	148	45.1
Municipal government	198	60.4
National government	110	33.5
Others	13	4.0
N	328	

In T'boli, it appears that there are less incidences of child labour given that ASGM is already regulated by mining associations. There are ID requirements and stricter hiring procedures before workers are allowed to work, however, the system is not fool proof as there are still reported cases of children or teenagers working in the mines.

10. FORMALIZATION OF THE INDUSTRY

Forty five per cent of respondents reported that their community had applied to be considered as a MB while 32.5 per cent said, their community had been declared as such. However, no such declaration has been made so far according to Engr Esteban Martin of the MGB.

There is a false perception that ASGM in T'boli has already been declared as MB. Though the declaration has not yet been formally released by the DENR. T'boli miners are appealing a rule that if the Secretary has not returned the application, then the application is already considered approved. This is the reason why ASGM continue in T'boli despite the law from the DENR ordering the stop of all ASGM operations outside the MB. The MGB insists that only Davao Oriental, Eastern Samar, Quezon, Dinagat Island and Agusan del Sur have been successfully declared as MB. The rest of the applications are still pending with the DENR.

10.1 T'boli as an organized mining community

ASGM in T'boli is fairly organized with its mining associations taking the lead in the mining operations. According to respondents, the MGB has allotted 120 hectares for small-scale mining in Barangays Kematu and Desawo. Yet, each applicant is only allowed 20 hectares for their operations. The mining associations have imposed rules in the operations of ASGM in cooperation with key government offices. For instance, all miners are now required to be registered and all operators have to apply for clearances from the municipal LGU. An ID system was also introduced by the PMRB to eliminate the recruitment of underage workers and to identify and set a headcount of all miners engaged in mining. Still this is not a fool proof system as child labourers have been documented to continue working in ASGM, especially in the mining areas.

Safety regulations have also been set in place, with workers required to wear helmets, boots and carry flashlights in the tunnels. Order has been set in place as regards work hours in some instances as work hours are now in eight hour shifts, with three shifts in a day. There are still those who go over to acceptable eight hour work hours, without overtime pay. Profit sharing schemes have also been devised based on the amount of gold haul.

10.2 Problems in the processing of the “minahang bayan” application: Labo and Paracale

The situation is different in Paracale and Labo, which are only starting to apply for their small-scale mining permit. For a long time, miners in the two municipalities of Camarines Norte remained unorganized. The order from then DENR Secretary Lopez in 2016 forced the closure of many of the operations in Camarines Norte.

This is particularly true in Paracale, Camarines Norte, which imposed the order strictly. Unreliable data states that the LGU ordered crackdowns in ASGM mining sites, which led to the imprisonment and imposition of fines to some miners. Miners who were apprehended were asked to pay for Php25,000 (USD\$91.75) bail bond. Nonetheless, if they admit their “crime,” they were merely asked to pay for Php5,000 fine, which a number opted for given the price difference.

The strict imposition of the ban in Paracale led to the closure of mines forcing miners out of their livelihood. But, illegal mining persisted in some areas, although this has been drastically reduced. This motivated miners to form associations to file their application for the MB.

The Mining Association President said they were caught unaware when the DENR imposed the ban because no one explained to them what the ban was all about. He said that had they been informed earlier, they would have already organized themselves into mining associations. There is also confusion with the definition of small-scale mining. The president of the Mining Association in Paracale shared his thoughts on this, “Sa amin po ang magkakabod lang kasi parang kamote pagmimina kung tawagin kami, yung pagkakabod hindi siya small-scale. Ang small-scale po iyan ay isang mamumuhunan, may isang pinansiyal na malaki iyan na kumbaga meron silang kumbaga mag aapply ka talaga ng small-scale, meron kang lugar na aapplyan para dun sa...” (We do not consider ourselves as small-scale miners, we call what we do as sweet potato mining. Small-scale mining requires capital from a big financier who has to apply for permit to mine a particular area). Given their understanding of what they do as miners, they were caught unaware when the regulation to apply for a small-scale mining permit was imposed on them, because what they were really doing was just individual mining for the most. With the small-scale permit requirement, they were forced to band together to form a cooperative of miners with due registration with the Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) and other government agencies.

In Labo, Camarines Norte, the LGU was not as strict in implementing rules against ASGM. Driven by practicality, the LCE of Labo said that he has not done anything to stop miners from continuing with their work given that for most, this is the principal source of their livelihood.

On the other hand, the application for small-scale mining permits in Camarines Norte are faced with huge obstacles due to land issues. One of the requirements outlined in the IRR of RA No. 7076 is for the Regional Office of the DENR to ensure that there are no previous rights and applications to the proposed mining areas. Unfortunately, a lot of the areas in Camarines Norte already have existing claim holders (those who have claim to mine underground) and landowners (owners of the land surface). There is also the need to secure the permit of landowner should the landowner and claim holder be two different entities. Both claim owners and landowners should have given their consent to the small-scale mining applicants. Some mining organizations, in the meantime, are still hard-pressed at complying with all the documentary and monetary requirements. Thus, the application for small-scale mining permit in Camarines Norte will not see immediate resolution. The PMRB has to decide on the matter, which it has not yet done to date.

Remarkably, among those whose community has not been declared as MB, majority said they do not know the reason why it was not yet declared as MB. Other reasons given were because of opposition from the people in the community, they fear that this will lead to destruction of environment and will affect the health of the people, miners are not united, or that the application process is still on-going. Thus, for many, there is really no understanding why Labo and Paracale have not yet been declared as “Minahang Bayan” areas.

10.3 Benefits of being a “minahang bayan”

Asked about the benefits when a community is declared as “Minahang Bayan”, 40 per cent of respondents noted that this will prevent child labour in mines (Table 31). Miners’ welfare will also be ensured (35.6 per cent), the environment will be protected (26.8 per cent) and gold production monitored by government (17.8 per cent). While the answers are correct, very few were able to respond correctly, which shows that very few have an understanding and appreciation of the benefits of being MB.

Table 31. Benefits of being declared as “minahang bayan” (multiple response)

	Frequencies	Percentage
Government will be able to monitor production of gold	69	17.8
Will be able to take care of the environment	104	26.8
Will ensure miners’ welfare	138	35.6
Will prevent children from working in the mines	152	39.2
N	388	

The President of the Mining Association in Paracale enumerated the benefits of the MB as follows:

- It will make ASGM mining legal.
- Miners will be forced to pay for taxes.
- Miners will have an ID for easier identification of workers.
- Guidelines will be set in the care for the environment.
- It will solve the problem of child labour.
- New gold processing methods will be introduced and will result to the elimination of the use of mercury.
- Operations will be systematic.
- No miner will be imprisoned for illegal mining anymore.

Also, others do not understand the benefits of the MB. According to some miner interviewees, they said they were not in favour of the MB because it might actually affect their livelihood through the loss of jobs, which is a mistaken opinion. Some even think that the MB is another unnecessary requirement by government to earn money from miners. Thus, miners have mixed attitudes towards the MB. Some are opposed to it, while others have a half-hearted attitude towards it since they do not fully understand its full potential and the benefits it could bring them when properly run.

10.4 Entry of big mining corporations in the community

In a conversation with a Ban Toxic staff from Camarines Norte, it was mentioned that some big mining corporations are already claim holders of some mining areas in the province. However, they are yet to operate in the community because of problems with land and claim ownership.

Interestingly, majority of respondents are not in favour the big mining companies will enter their community (65 per cent). The main reasons for their opposition is the fear that small miners will be displaced, they fear that large-scale mining companies will be using more hazardous technology, which will have negative effects on the environment and dangerous to the community.

10.5 Attitudes towards mining related issues

Respondents were asked of their level of approval on some issues related to mining, using a scale, 1 (Strongly agree) to 5 (Strongly disagree). Table 32 summarizes the results and present the percentage that approve of the statement (strongly agree and agree). Mean score for each statement is also presented in Table 32.

Table 32. Attitude statements (Strongly agree and agree)

	Approved
ASGM is more beneficial to the community than large-scale mining industries run by corporation.	68.0
Local government is doing enough to address the working condition of miners in ASGM.	45.4
It is better for government to manage ASGM.	45.1
Government should not involve itself with ASGM.	33.8
The government is giving enough information on the possible effect of mercury exposure on health.	36.1
Employers/Financiers are providing enough information on the possible effect of mercury exposure on health.	21.9
Children 15-17 years old should be allowed to work in the mines.	4.6
The decision for children to work should be the parents' responsibility to make and not the child's.	87.6
The mines provided many job opportunities in our community.	64.9

There is high degree of approval on topics such as the responsibility of the parents to decide on whether children should work (87.6 per cent) as well as benefits of ASGM to the community compared to large-scale mining (68 per cent). Respondents' sentiments are a bit undecided when it comes to government involvement in ASGM. In contrast, they are clear on their opposition regarding child labour, with only 4.6 per cent agreeing to the statement that children aged 15-17 should be allowed to work in the mines.

11. CONCLUSIONS AND RECOMMENDATIONS

A stronger lobby should be staged for the DENR to fast track the approval of the MB applications especially that of Paracale and Labo, Camarines Norte. A key action that needs to be taken is the resolution of the land disputes in the two communities to accelerate the declaration of the two communities as MB. While the application for the MB application in T'boli, South Cotabato has already reached the level of the DENR Secretary, the area has yet to be declared formally as MB. The P/CMRB, MGB and DENR should be pushed to comply with the processing timeframes indicated in the IRR of the Revised IRR of RA No. 7076 because the livelihood of these communities and the improvement of the welfare of miners rest on the declaration of the communities as MB.

A key requirement for the declaration of “Minahang Bayan” which has the potential to be used as a vehicle to resolve many of the issues miners and the community are facing (i.e. unfair labour practices, disregard for safety practices in ASGM, incidences of child labour, mercury usage, environmental degradation, among others) are the setting up of mining associations. The mining associations or cooperatives can be accountable partners of the LGU, PMRB, MGB and the DENR in setting up and enforcing acceptable labour and safety practices in ASGM. They can assist in the formalization of ASGM, which has been a largely informal industry throughout history.

When done right, the formalization of ASGM in these areas will pave the way for better labour and safety practices and the protection of children from child labour. The exploitative labour conditions in the areas are fuelled by the informal nature of the industry and the traditional practices that people in these mining communities have gotten to and have accepted as normal and unchangeable. So long as the industry remains informal, with workers dependent on individual financiers, the exploitative work conditions will remain the same because financiers will continue to dictate the wages and work conditions of workers, while seeking duplicity from the informality of their relationship with their employees. Organized into associations or cooperatives, labour and safety standards can be set and imposed by these associations and cooperatives. The associations can also self-regulate their members. The associations, in turn, can work with and be accountable to the government for complying to labour and environmental standards. Thus, the associations can be the channel of change that can challenge and change accepted norms in the community.

On the issue of child labour, there is child labour in ASGM, because of a host of complex reasons including poverty, traditional practices that have made it acceptable for children to help their parents or participate in ASGM activities, lack of better employment opportunities in the community for older children, and the scarcity of meaningful education that would allow children to see the potential of education to change their life for the better, among others. It does not help that government and the adult protectors of children are also negligent in putting into practice or enforcing anti-child labour laws. Child labourers are allowed by adults to work in ASGM because there is greater concern for the short-term benefits work in the mines that brings to the children and their families. In spite of this, we have also seen how the formalization efforts of ASGM in South Cotabato has drastically reduced child labour in the community.

11.1 Work issues

Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Many miners are not aware of their rights as workers, including the right to be enrolled in social protection programmes of the government such as PhilHealth, SSS and Pag-IBIG. They are also not aware of the benefits of the latter. 	<ul style="list-style-type: none"> • Miners do not demand for their rights because work conditions they face have existed from the time of their forefathers. On the other hand, they are indifferent to social protection programmes because they are unaware of potential benefits to them. 	<ul style="list-style-type: none"> • Majority of miners work without contracts. Arrangements are usually verbal between them and their financiers. • Labour laws and standards pertaining to work hours, regular wages, overtime compensation, employee benefits and safety standards are disregarded given the informal nature of ASGM. Profit sharing is heavily biased in favour of financiers. When ventures do not earn, miners

		<p>are usually the biggest losers because they get a smaller portion of the profit.</p> <ul style="list-style-type: none"> • Mining associations can be vehicles for the promotion of worker's rights.
Recommendations		
<ul style="list-style-type: none"> • Improve knowledge of miners, financiers and mining associations on labour laws particularly those that have to do with wages, benefits, work hours, safety standards, among others. • Increase understanding of what formalization of work requires (e.g. compliance to labour code). 	<ul style="list-style-type: none"> • Attitudes regarding work benefits should be targetted through advocacy messages revolving around the need to critically reconsider traditional labour practices and replace them with practices that comply with labour laws and standards set by the government. • Miners should be guided in achieving appreciation for how social protection schemes can help them financially in times of need. 	<ul style="list-style-type: none"> • Advocate the passage of a national law protecting the rights of ASGM miners as workers like the government did with domestic workers. • Get the LGUs to pass counterpart local laws that will promote and protect the welfare of miners and ensure the LGU's commitment to support and implement labour laws protecting the rights of ASGM miners. • Ensure that all mining ventures are in the domain of mining associations. No individual mining ventures should be allowed as stated in the law because workers are more prone to be abused in such arrangements. • Organize mining associations to comply with and promote fair labour standards. • Mining associations should be held accountable for ensuring compliance to labour and safety standards for miners. • Concerned agencies should establish rational and acceptable standards for wages of miners. • Access to medical insurance should be made available for miners--at the least, they should have universal enrolment to PhilHealth.

11.2 Conditions miners face in ASGM

Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> Miners are aware of their occupation hazards, however, few know how to protect themselves from work-related risks and injuries. 	<ul style="list-style-type: none"> Knowledge of occupation hazards is not enough to create an ethic of safety among people involved in ASGM. There is almost a non-chalant attitude towards safety and protective behaviours, often connected to the industry being informal. There is also misgivings by LGU officials in strictly enforcing safety standards, because it could lead to the loss of people’s livelihood. Despite dangers, miners continue to endure the dangers under the excuse of potential rewards. 	<ul style="list-style-type: none"> Miners are exposed to numerous dangers, especially those working underground. They are exposed to extreme conditions such as heat, being wet, dust and fumes, accidents and death. Dangers are not enough to require them to wear safety gears and practice safety procedures, especially in Camarines Norte. Safety standards have been established in South Cotabato through the mining associations. There is also no firm monitoring by government of compliance to safety.
Recommendations		
<ul style="list-style-type: none"> Regular training on safety standards should be conducted to update the knowledge and motivate compliance on the part of financiers and miners. Safety standards that will be taught to miners should adapt to acceptable international safety standards in mining. 	<ul style="list-style-type: none"> A key message that should be delivered to financiers, mining associations and miners is giving greater value to safety standards and developing a culture of safety and risk avoidance. Another key message that can be delivered specifically to financiers and mining associations is: “The health and well-being of your worker is your responsibility”. The attitude of mining inspectors towards the stricter enforcement of safety standards should be addressed through determined advocacy. 	<ul style="list-style-type: none"> The implementation of safety standards rests on the formation of mining associations and the prohibition of individual mining ventures. All mining ventures should be in the scope of mining associations. With the degree of formalization afforded by mining associations, it will be easier to enforce safety standards to mining work and to hold accountable those not enforcing the standards. Stricter safety standards should be imposed among all workers by mining associations and the government with clear penalties for non-compliant mining associations. Stricter monitoring of safety practices in the mines should be carried out. The possibility of setting up monitoring committees made up of representatives from the LGUs, mining associations and the barangay should be explored to

		make up for the lack of staff of the PMRB and other agencies to carry out the role.
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11.3 Issues faced by those who have never worked for ASGM

Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> Many non-ASGM respondents are aware of issues faced by miners given that many are also miners and belong to mining families. 	<ul style="list-style-type: none"> There appears to be an attitude of indifference towards issues faced by miners in ASGM. 	<ul style="list-style-type: none"> The community at large is affected by things happening in the ASGM.
Recommendations		
<ul style="list-style-type: none"> Community-wide information drives to inform the larger community about issues regarding mining, particularly those that affect them (e.g. environmental and health concerns) should be carried out. 	<ul style="list-style-type: none"> Address the people's lack of concern by mobilizing the community to be more active in mining concerns especially regarding issues that affect them directly such as mercury use. 	<ul style="list-style-type: none"> Mobilize and organize community members in supporting issues faced by miners, particularly environmental issues because they are also affected by whatever goes on in the industry.

11.4 Mercury use

Knowledge	Attitude	Practices
<ul style="list-style-type: none"> There is high awareness among miner and non-miner respondents of the health and environmental dangers of exposure to mercury. However, there appears to be little awareness on the symptoms of mercury poisoning and the proper disposal of mercury. 	<ul style="list-style-type: none"> Miners persist in using mercury for gold processing, because it is the cheapest and most efficient way to separate gold from ore. There are no available alternative technologies, especially in Camarines Norte, they are more concerned about earning more than mercury's negative effects on the health and the environment. They think it is the financiers responsibility to dispose of mercury, and they give on government the responsibility of regulating its use rather than making 	<ul style="list-style-type: none"> Mercury use is alive and well in ASGM, but more so in Camarines Norte than South Cotabato because miners in South Cotabato are already organized into associations and there are designated areas for the processing of gold unlike in Camarines Norte. The problem continues to persist because mercury is continually traded in the black market or local officials are involved in the illegal trade. Miners are exposed to burning fumes of mercury, but also community residents especially when mining ventures are in residential areas. It

	<p>the control of mercury self-regulated.</p>	<p>contaminates the soil, water supply and the supply of fish.</p> <ul style="list-style-type: none"> • There is improper disposal of mercury because of the absence of disposal facilities that conform to international standards. • There is a shortage of staff from the DENR, EMB and LGUs to monitor mercury use in the community.
Recommendations		
<ul style="list-style-type: none"> • Step up information campaigns not only on the damaging effects of mercury exposure to one's health and the environment but also available alternative technologies to separate gold from ore without the use of mercury. • Conduct information campaigns on the proper disposal of mercury if mercury use cannot be phased-out right away. • Conduct information drives on the symptoms of mercury poisoning. 	<ul style="list-style-type: none"> • Address the issue of acceptance in the use of mercury by emphasizing messages like "their future health status is more important than the temporary financial gains of the present". • Address the community at large compliance towards the health and environmental effects on the use of mercury in ASGM operations through advocacy messages that underscore everyone's stake in stopping the use of mercury in ASGM. • Include in the advocacy campaign the need for community members to realize that the proper disposal of mercury is everyone's interest and not just miners and the government and that environmental degradation can compromise the survival of the community. • People rely on government to impose laws against mercury use, however, what should be developed through advocacy campaigns is the attitude of self-regulation. 	<ul style="list-style-type: none"> • Persuade LGUs and mining associations in Camarines Norte to invest and adopt technologies that separate gold from ore that can be used by ASGM miners like they do in South Cotabato. • Organize the community to demand LGUs to strictly implement the laws against the use of mercury. • Tap the barangay in monitoring and reporting the use and improper disposal of mercury and strengthen the capacity of the LGU to deal with violators. • Get LGUs to adopt and invest on mercury disposal technologies and techniques. • Come up with a multiple pronged approach involving addressing the following: poverty; the attitudes of people; the lack of state-of-the-art mining technologies to separate gold from ore; and the lack of technologies to properly dispose mercury.

11.5 Health conditions and health seeking behaviours

Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Many miners think they are of fair health. Many are not aware of symptoms of mercury poisoning. 	<ul style="list-style-type: none"> • People do not seek medical treatment because of potential expenses. • They see no need to have themselves checked for mercury poisoning until they reveal serious symptoms. 	<ul style="list-style-type: none"> • While some patients reveal symptoms of mercury poisoning, they do not get tested because there is no available testing kit in the community. • Most visit health centres over hospitals for illnesses and injuries. Many pay for their own healthcare. • PhilHealth coverage is limited to patient bills and does not govern medical consultation and purchase of medicines.
Recommendations		
<ul style="list-style-type: none"> • There is a need to increase people's knowledge on mercury poisoning and symptoms of mercury poisoning. 	<ul style="list-style-type: none"> • There is a need to improve the health seeking attitudes and behaviours of miners and community members. However, this should come along improvements in access to healthcare (i.e. healthcare facilities, availability of mercury poisoning testing, among others). 	<ul style="list-style-type: none"> • Mercury poisoning testing should be made available in community hospitals and health centres that anyone suspected of having mercury poisoning can access. • Establish a referral system that would enable the referral of possible mercury poisoning patients to hospitals equipped with testing kits and treatment facilities. • There should be a referral mechanism to enable those who have tested positive for mercury poisoning to seek treatment in hospitals that can adequately treat this.

11.6 Access to social protection mechanisms

Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Respondents are aware of the CCT Programme. • Little knowledge on the benefits miners can get from enrolment with SSS and Pag-IBIG. • Some community members have received livelihood training to ensure fall back 	<ul style="list-style-type: none"> • There is disappointment over how CCT beneficiaries were chosen by the LGU. • Mining is still seen as more lucrative than other enterprises, hence, those who have received training do not develop interest in 	<ul style="list-style-type: none"> • There is low enrolment rate in the CCT programme among all respondents. They perceive politics came in the way of how beneficiaries were chosen. • There is also low enrolment in SSS and Pag-IBIG, which are key social protection

<p>in case of downturns in the mining industry.</p>	<p>setting up business enterprises.</p> <ul style="list-style-type: none"> • People show little interest in SSS or Pag-IBIG because of ignorance of its potential benefits as social protection schemes. 	<p>mechanisms people can rely on.</p> <ul style="list-style-type: none"> • They rely on loans from various sources to pay for their needs. Most of those who took out loans are women. • Livelihood training has been given to community members, but those trained have not transformed this into actual business enterprises because they do not have capital, there are not enough business opportunities, among others.
Recommendations		
<ul style="list-style-type: none"> • Efforts should be stepped up to inform the community members about social protection facilities available to them and the benefits they get from them. 	<ul style="list-style-type: none"> • Changing the mindset of miners to explore other means of livelihood will only succeed if opportunities are made available and they are convinced of the lucrateness of the new enterprise compared to their present work. • Convincing household heads to take out loans for business purposes and equipping them with the skills to set up a successful livelihood enterprise for the family should also be in the agenda. 	<ul style="list-style-type: none"> • When livelihood training is given capital should be provided and full assistance to ensure success of the business venture. • For non-business livelihood training, job opportunities should also be made available to enable recipients to find work they can use their newly learned skills. • There should be universal enrolment to SSS and Pag-IBIG as these serve as reliable social protection mechanisms for the families.

11.7 Child labour issues

Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • There is high awareness of the laws banning children from working in ASGM. 	<ul style="list-style-type: none"> • Respondents believe children should not work in the mines. However, sometimes, this is ruled out by tradition because miners themselves have worked in ASGM as children. Mining, in some contexts, are also done within the scope of a family enterprise, which makes them think children are only helping out. 	<ul style="list-style-type: none"> • In South Cotabato, local legislation has been passed to prevent children from being recruited as miners. Mining associations have also devised strategies to prevent children from being recruited in ASGM. However, this is not always a fool proof system. • Community members do not stop children because mining

	<p>Sometimes, children themselves prefer to work in ASGM instead of completing their education. They do this to help their parents and family. Moreover, they find this more rewarding than education and becomes a source of pride when they help their families.</p> <ul style="list-style-type: none"> • Older children who work in the mines are treated like adults and given difficult work like their adult counterparts. • Some children want to pursue their education at some point. 	<p>could be the only source of income for the family.</p> <ul style="list-style-type: none"> • There are also problems in implementing laws and LGUs are unable to provide economic alternatives to the family.
Recommendations		
<ul style="list-style-type: none"> • People need more information on child labour and child protection. 	<ul style="list-style-type: none"> • Messages addressing the issue of child labour such as: “Your child does not need to work in the mines like you did”; “Mining is not for children, regardless of age”; “Mercury can have lasting effects on your children’s health and well-being”; “Children should be learning and playing, not working in the mines”; and “The place of children is in school and not in the mines” can be delivered. • For children, key messages should be: “You have a better chance of bailing your family out of poverty if you finish school”; “Mining gives you temporary rewards, while education will give you more lasting rewards”; and “A child’s place is in school, not in the mines”. 	<ul style="list-style-type: none"> • Banning of individual mining ventures (done by families), will contribute to solving child labour. • Stricter inspection of identification cards of workers specially those who are suspected of being minors should be imposed. • Passage of local ordinances in Camarines Norte banning children from mining work to ensure the community’s commitment against child labour. • Self-regulation should be done by mining associations to ensure children are not made to work in the mines. • Greater cooperation between the municipal government, barangays, parents and mining associations in monitoring child labourers in the community should be encouraged. • Assistance should be given for children who want to go back to school, whether this be through the formal education system or through ALS.

		<ul style="list-style-type: none"> • Skills training should be provided to older children, however, the skills to be developed should be responsive to the employment needs of the community.
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11.8 Formalization of the industry

Knowledge	Attitudes	Practices
<ul style="list-style-type: none"> • Many miners are not aware of the benefits of mining associations and the MB, including the status of the application of MB in their community. • Some have correctly identified the benefits of mining associations and the MB. 	<ul style="list-style-type: none"> • There is resistance to the legal requirement to form mining associations and to apply for the MB status in Camarines Norte. They see the MB as another layer of bureaucracy that is getting their means of livelihood. 	<ul style="list-style-type: none"> • The closure order of then DENR Secretary Lopez forced miners in Camarines Norte to file their MB application. There were two different responses to this: (a) the closure of mining operations, imposition of fines to miners and their imprisonment; and (b) disregard of the order given by the DENR. • No mining permit has been released in Camarines Norte because of land issues that the P/CMRB has yet to resolve. • While there is no official declaration yet that T'boli, South Cotabato is a MB, there are already organized operations there that show the potential of the mining associations and MB to formalize mining operations.
Recommendations		
<ul style="list-style-type: none"> • Information drive should be carried out to increase people's awareness on how they and the community can benefit from the formation of mining associations and the MB. • The capacity of mining associations should be developed to effectively address work, safety, environmental, child labour and other mining related issues. 	<ul style="list-style-type: none"> • Miners from Camarines Norte will have a better appreciation of the MB if they see how it works. Learning visits should be made available to mining association leaders in functional MBs to enable them to appreciate its benefits and to learn how they can improve labour conditions in their own communities. 	<ul style="list-style-type: none"> • Advocacy should be carried out with the national government and the PCMRB to speed up the resolution of issues pertaining to the issuance of status of MB. • Help mining associations become functional to ensure they are able to perform their roles in protecting workers' rights, prevention of child labour, protection of the environment, among others. • Explore possibilities of how mining associations can assist in the full implementation of environmental protection laws.

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