



CNV internationaal & PLADES Summary

1. Purpose and scope

The main objective of the study was to describe the violations of the labour, occupational health and safety, and union rights of outsourced workers in two mining companies: the Antapaccay 1 mine, owned by Compañía Minera Antpaccay SA; and the Andaychagua mine, belonging to Volcan Compañía Minera SAA. Both companies are part of the Glencore Group; Cía Minera Antapaccay SA joined Glencore in 2012, while in 2017, Glencore bought 63% of the shares of Volcan Cía Minera SAA.

Andaychagua is an underground multi-metal mine located in the Junín region of Peru, with a daily production of 3,400 tons; while Antapaccay is located in the Cusco region, where it exploits an open pit mine that mainly produces copper. Its current production is 206 thousand metric tons. Antapaccay also has two copper concentration plants.

2. Methodology

The study was carried out from March to September 2020, in the context of the Covid-19 pandemic, with the consequent limitations of the emergency situation. Field work in Andaychagua was carried out from 13 July to 4 August, and in Antapaccay, from 10 July to 31 August. The methodology combined two complementary strategies for data collection: a) a local field team that was able to move about, and b) specially developed instruments for gathering data through telecommunication (smartphones and other digital systems).

The instruments used were: a) a survey with 49 closed questions to workers, and b) a series of semi-structured interviews with actors in the value chain, outsourced workers, local authorities and specialists on the subject. In total, 182 surveys (61 at Antapaccay and 121 at the Andaychagua operation), and 44 semi-structured interviews (14 at Antapaccay and 30 at Andaychagua) were carried out.

Table 1: Description of the survey sample

Surveys	Andaychagua Mine (Volcan Cía Minera)		Antapaccay Mine (Cía Minera Antapaccay)	
Positions	121	100%	61	100%
Labourers	100	82.64%	59	96.7%
Supervisors	21	17.36%	2	3.3%
Gender	121	100%	61	100%
Men	117	96.7%	61	100%
Women	04	3.3%	0	0%
Origin	121	100%	61	100%
Main City	47	38.8%	38	62.3%

Other places	74	61.2%	23	37.3%
Education Level	121	100%	61	100%
Primary education	-	0%	3	4.9%
Secondary education	51	50.4%	17	27.9%
Technical degree	43	35.5%	32	52.5%
Bachelor degree	17	14.1%	09	14.8%

Of the 120 workers who responded to the survey at Andaychagua, 94 were still working for contractors, and 27 had stopped working in mining. At Antapaccay, 50 were still working, while 11 had stopped working for the contractors.

Table 2: Description of the interview sample

Interviews	Andaychagua Mine (Volcan Cía Minera)	Antapaccay Mine (Cía Minera Antapacay)
Labourers	20	10
Supervisors	5	2
Local Authorities	5	3
TOTAL	20	14

3. Outsourcing in the mining businessmodel

The mining industry’s business model disrupts the organisation of the labour market by its use of subcontracting in various phases of the process. A recent study¹ found that the majority of mining companies worldwide outsource some phases of extraction (like blasting and mining), as well as several general maintenance and support services. But very few outsource the mineral processing (Baatartogtokh, Dunbar, & van Zyl, 2018). The labour market disruption in mining is based on the need to maintain high competitiveness by increasing productivity, improving effectiveness and reducing operational costs. Outsourcing of mining processes is justified as “a means of reducing costs in order to become 'globally competitive’” (Pillay, 1999, p. 194)².

As a means of reducing costs, outsourcing in the mining value chain makes sense for the companies, because they not only outsource part of their processes and functions, but also their responsibility for compliance with applicable laws, which is passed on to the subcontractors. By rotating outsourced staff and denying workers any contractual stability: companies save in terms of workers’ participation in profits, seniority bonuses, and access to occupational health and safety; in addition, the limited duration of contracts seriously impairs any type of long-term union organisation, which reduces workers’ ability to improve their conditions through union action. , Subcontractors’ standards for labour conditions harm mining workers. The cost saving strategies of mining companies are directly reprocuting on the social and occupational well-being of the productive force, and in this way, the competitiveness of these companies is ultimately based on the violation of workers’ rights...

¹ Baatartogtokh, Dunbar, y van Zyl. (2018). The state of outsourcing in the Canadian mining industry. Resource Policy, <https://doi.org/10.1016/j.resourpol.2018.06.014>

² Pillay, D. (1999) The human cost of sub-contracting/

The outsourcing strategy causes two distinct contracting segments to be formed: the payroll of the mining company and the payroll of a mining contractor. It is remarkable that this segmentation reproduces racial and social inequalities that result from a particular organisation of the labour market.

In Peru, the regulatory framework stipulates that outsourced workers - given that they are in a strict employment relationship with the subcontractor - cannot be subordinate to the company that hires the subcontractor or to which the service is provided (in this regard, Legislative Decree 1038 specifies the scope of the Law and the previous norms and regulations, in particular Supreme Decree 006-2008-TR). However, as Toledo (2020)³ points out, the indiscriminate use of outsourcing generates negative consequences for the stability and social and labour rights of outsourced workers; subcontracting can become a management instrument for lowering labour costs, through evading compliance with labour standards rather than promoting the generation of quality employment.

4. The outsourcing of labour in the value chain of Volcáan Cía Minera and Compañía Minera Antpaccay

4.1 The mining industry value chain

The life cycle of a mining investment project comprises several phases i) exploration (search and prospecting), to underpin a decision to exploit or not the resource; ii) development and construction; iii) production and exploitation; and finally iv) closure of the operation.

The mining sites in this study are in full production phase. Therefore, our analysis will ignore the two preparatory stages, as well as the final one (mine closure). The mining operation itself involves the extraction, the “chancado” [crushing] and the concentration of minerals; a process that involves the disposal of tailings. Maintenance is also considered a fundamental part of the main value chain, since its objective is to keep the extractive and processing equipment and facilities operational..

The methods used to extract minerals from the ground depend on the characteristic of the mine; open pit, alluvial or underground. The extraction processes in the studied mining sites are drilling, blasting, loading and hauling.

Crushing and concentration refer to the physical, chemical or combined physical-chemical processes that are used to extract and concentrate the valuable parts of a mineral aggregate. This is why it is also called the ‘benefit phase’. The mined materials are first reduced in size through crushing or grinding.

The next stage of the benefit phase, concentration, involves separation by gravity, magnetism, flotation, or other techniques. As several of these processes use a lot of water, a final phases of thickening and filtering seeks to remove this water from the concentrated mineral.

³ Toledo, O.(2020). A System of discriminatory labour outsourcing cannot be constitutional: Critic to the STCN° 013-2014-PI/TC.LaLey. El Ángulo legal de la noticia. Recover from: <https://laley.pe/art/9451/un-sistema-de-tercerizacion-laboural-discriminatorio-no-puede-ser-constitucional-critica-a-la-stc-n-013-2014-pitc>

The concentration process leaves two products: i) the concentrated valuable metal, which is the mining operation’s main product, and ii) the rock waste or tailings, which are no longer functional to the mining business. Disposal of these waste materials constitutes an environmental challenge, since it often contains compounds that are highly toxic to all forms of life.

4.2. Outsourcing by Volcan Cia Minera SAA at the Andaychagua mine

At the Andaychagua operation, functions are outsourced to a dozen subcontractor companies; but two of these, IESA and ECOSEM, concentrate between 70% and 90% of the outsourced workforce (varying over the years). While IESA employs about 800 people for work inside the mine, ECOSEM employs just over 300 people who work in surface cleaning and maintenance work. Of these companies’ workforce, 95% are workers with a position of operator, heavy equipment assistant or machinery operator, and only 5% are supervisors and specialist engineers.

In both cases, the job profiles usually requested do not require job specialisation other than a certificate of competence for working with certain specific machinery. The companies employ large numbers of poorly qualified personnel, with limited training, that carry out high-risk functions inside the mine as well as lower-risk work above ground, in cleaning and ‘environmental’ activities.

A third company, CNSAC, performs the outsourced tasks of loading and hauling ores from the mine’s interior to the crushing plant.

As we see, the mineral extraction process at Andaychagua is widely outsourced. For the first link in its value chain, Volcan’s business model for Andaychagua relies on outsourcing the workforce to sub-contractors, and it is this first link that involves the large majority of mining workers. Employees directly employed by Volcan mainly work at the concentrator plant, which requires personnel that is more specialised, but lesser in number, for jobs with a much lower risk.

Table 3: Phases in the value chain of the Andaychagua mine according to the executing entity

Extraction	Execution
Drilling	Outsourcing Company
Blasting	Outsourcing Company
Loading and hauling	Outsourcing Company
Concentration	
Crushing (‘Chancado ‘)	Mine Company
Grinding	Mine Company
Classification	Mine Company
Flotation Pb/Cu-circuit and Zinc circuit	Mine Company
Concentration PAND 02 (550)	
Grinding	Mine Company
Classification	Mine Company
Flotation Pb/Cu-circuit and Zinc circuit	Mine Company
Process from both plants are connected	

Thickening and Pb, Cu and Zn filtration	Mine Company
Tailings Disposal	Outsourcing Company
Maintenance	Outsourcing Company

4.3 Outsourcing in the Antapaccay 1 mine, of Compañía Minera Antapaccay SA

Approximately 4000 outsourced workers and 1600 Antapaccay payroll workers are active at the Antapaccay Mine. The mine uses approximately 1000 subcontractor companies, the services of 120 of which it hires on a regular basis. Outsourced workers perform drilling, blasting, geology work, the transportation of ore and cargo, electrical and mechanical maintenance, civil engineering work, earthworks, and the entire service area (hotel, diner, transportation, cleaning, security). In Antapaccay, outsourcing is not limited to a small group of mining contractors. It is, however, concentrated around few specialist jobs that require less precise work. Although subcontracted workers are involved in geological or civil engineering work, it is the supervisors and engineers that are on Antapaccay's payroll who define the objectives for the working day; the subcontracted workers only follow instructions within the framework of their professional competence..

It is found that at least 70% of maintenance functions are assigned to contractor companies. Moreover, in drilling, blasting, loading and hauling, which constitute the Extraction link on the value chain, the majority of workers are outsourced. Finally, functions in the processing plant are carried out almost entirely by personnel directly on the Antapaccay payroll. However, these are not human capital-intensive functions. Those functions that have a higher need for manual labour are outsourced to subcontracted workers. The business model is strongly based on the extensive labour of outsourced workers, who partake in the activities that make up the mining industry's core value chain..

Table 4: Phases in the value chain of the Antapaccay mine according to the executing entity

Mining Extraction	Executor
Drilling	Outsourcing Company and Mine Company
Blasting	Outsourcing Company and Mine Company
Loading and hauling	Outsourcing Company and Mine Company
Crushing ('Chancado')	Outsourcing Company and Mine Company
Benefit	
Molienda	Mine Company
Clasificación	Mine Company
Flotation	Mine Company
Chancado	Mine Company
Benefit Plant Concentradora Tintaya	
Crushing ('Chancado')	Mine Company
Grinding	Mine Company
Flotation	Mine Company
Process from both plants are connected	
Concentrate thickening	Mine Company
Filtration and classification	Mine Company

Concentrate Transport	Outsourcing Company
Tailings Thickening	Mine Company
Maintenance	Outsourcing Company and Mine Company

4.4 Similarities and differences in the use of outsourcing in both mining sites.

The information found allows us to identify a number of common characteristics as well as some differences in the ways outsourcing is used at Volcan Cía Minera SAA and at Compañía Minera Antapaccay SA.

- a) The workforce is mainly outsourced, in both cases exceeding 70% of workers. In December 2019, at Volcan’s Andaychagua mine, outsourced workers constituted 77% of all personnel, while in the Antapaccay company’s mine, 72% of the entire workforce were outsourced. It is important to consider that the overall percentage of subcontractor employees in Peruvian mining represented 56% in 2018 (General Directorate of Mining Promotion and Sustainability MINEM)⁴
- b) There is outsourcing taking place in the mining companies’ ‘core business’, which consists of the extraction, crushing and concentration of minerals. Specifically, in both mining sites studied here, outsourced workers perform extraction tasks involving drilling, blasting, loading and hauling. These are high risk tasks, and within the mining production chain, they are also the most labour-intensive.
- c) Likewise, the maintenance tasks in both mining operations are mainly or exclusively performed by outsourced workers. Additionally, at Volcan Cía Minera, the tailings disposal processes are assumed by outsourcing companies, while in the case of Antapaccay, the transport of mineral concentrate is taken over by subcontractor companies.
- d) Mostly, the tasks performed by outsourced workers require little qualification, demanding specific certifications only for the handling of machinery or equipment. More than 90% of outsourced workers are low or medium skilled.
- e) In contrast, the mineral concentration process is exclusively operated by personnel directly employed by the mining company. Because Antapaccay operates two concentrators, the number of direct workers here is significantly higher than at Volcan’s Andaychagua mine..

The main difference between the two mining companies is that while in Andaychagua, owned by Volcan Cía Minera, the tasks entrusted to outsourcing companies are different from those entrusted to direct workers; in the case of the Antapaccay mine, direct workers and employees of outsourcing companies jointly run several phases of the production

⁴ Ministerio de Energía y Minas [MINEM]. (2019). Informe de Empleo Minero: Panorama y Tendencias en el Perú. Recuperado de: <http://www.minem.gob.pe/images/publicaciones/empleo-8hzkg7qy63f.jpg>

process. The latter situation is an indication of the perverted nature of outsourcing, according to Law nr. 29245.

5. Violation of the labour rights of outsourced workers at the Andaychagua (Volcan) and Antapaccay mining operations

5.1. Mining contractors meet the basic requirements of labour law and formal employment

The results of the field work allow us to infer that in general, the contracting companies operating in the Andaychagua and Antapaccay mining sites, **do** comply with the basic aspects of Peruvian labour legislation, the minimum requirements for a formal job. Workers have an employment contract, are paid at least the minimum wage in the mining sector, are covered by health insurance (EsSalud) as well as Supplementary Risk Insurance, and receive the benefits associated with having a formal job, such as CTS⁵ and bonuses, although sometimes with delays and problems - more so in the case of Antapaccay -, which have increased in the context of the current pandemic. But their status as outsourced workers affects their salary and access to profit distributions.

Salary: Compliance with the minimum mining wage does not take away from the fact that several interviewees report that wages are low and that differences exist with the payments received by employees of the mining company for performing the same tasks.

Andaychagua: “Many of the workers in the area agree to work for these low salaries just because it enables them to insure their children in EsSalud. Most of them work at IESA, which has the largest workforce; their average pay is S/.2,400 per month for an average of 12 hours per working day, and they complain because there is no overtime payment.”

Antapaccay: “The salary is very low; I am totally unhappy. Companies from outside, such as from the North or from Lima, pay their workers well and give them good treatment.” (Worker from the mine’s pit support area, 260720).

This situation is widespread in mining, where the salary gap between direct workers and other (outsourced) workers is 45% for plant personnel and 39% for general operations personnel, to the detriment of the subcontracted workers (MINEM, 2019)

Profit distributions: The profits made by contracting companies are far below those obtained by the mining companies themselves. Many contractors do not report profits, or if they do, the amounts distributed to workers are minimal, compared to the profit distributions received by direct workers (in the case of direct workers, there is a cap of 18 monthly earnings per year from profits, beyond which, the money enters a fund administered by the government that is used for various purposes). At Andaychagua, 12% of workers did not receive a profit payment, and in Antapaccay, this percentage rises to 42%.

⁵ CTS: compensation for time of service; a twice-yearly wage related deposit made by the employer and meant as a dismissal insurance for the employee

Andaychagua: “[...] [the representatives of the contracting companies] say that they do not make much profit, or no profit at all, they rather have losses, and that is why they are not distributing profits to the workers.”

Antapaccay: “I do not know of any profit payments. We complain [to the contractor] and they tell us that they are always in the red, that they have not had any profit. In other companies, however, even if it is just 300 soles, they still give them.” (Worker in the mine’s earthmoving area, 120720).

5.2 Main labour rights violations in the hiring regime and someworking conditions

Violations have been reported in several critical areas. Contractors also make extensive use of legal privileges that result in less stable employment for outsourced workers.

- a. Labour contract modalities:** the study highlights that 100% of the outsourced workers surveyed are hired for a fixed term, both at Andaychagua and at Antapaccay, with contracts that can last for very short periods, like one month (for a small percentage of workers in Antapaccay). Most workers however sign new contracts every 2 or 3 months (76% in Andaychagua and 57% in Antapaccay), and the rest may have contracts of 4 months or more (23% in Andaychagua and 31% in Antapaccay). Supervisors have the relative advantage of being able to access longer-term contracts, of 4 months or more. Although Peruvian law allows various short-term hiring modalities, these types of contracts are not allowed for permanent jobs, and maximum terms exist beyond which workers must be hired indefinitely.

A worker from Antapaccay affirms: “[I... am renewed] every 3 months and that means you cannot set goals, [...] that is, you are not sure that you can be in a company. My contract [will be] fulfilled at any moment, and on that day, I don't know if they will renew me. And sometimes [the contractors], to prevent us from making claims, or if we have already made a claim, the following month your contract will not be renewed. That is the policy of almost all the companies, and we as workers have nowhere to go to for support or to complain” (Tipper operator, 230720_10).

The widespread use of short-term contracts for outsourced workers has led to a loss of employment in this group of workers. As of September 2020, the overall annual job loss in the sector reached 18%, with the group of direct workers with mining companies showing a 7.9% reduction, while the number of workers hired through subcontractors fell by 22.8%. (MINEM 2020)⁶.

At the two mining sites studied, the reduction in employment has been differentiated. While Volcan’s Andaychagua mine has increased its number of outsourced workers by 10% between December 2019 and June 2020, at Antapaccay the number of outsourced workers has fallen from 4,090 in December

⁶ Ministerio de Energía y Minas (2020) Boletín Estadístico Minero 09–2020, pg.14

2019 to 2,089 in June 2020 (–49%), while the number of direct workers has only decreased by 1%. (MINEM 2020)⁷

- b. Short-term contracts allow for concealed dismissals.** The intensive use of short-term contracts constitutes a violation of labour legislation, and impacts the freedom of workers to demand compliance with regulations, request improvements in their working condition, or exercise their right to freedom of association. The risk of non-renewal of contracts is the main threat to outsourced workers' job security.

The labourers interviewed who were no longer working for subcontractors indicated that termination of their contracts was the cause of their job loss. In Andaychagua they were 22 out of 27 (81.5%) and in Antapaccay they were 9 out of 11 in total. Why do contracting companies not renew the contracts for those workers? Workers themselves repeatedly stated that their attitude in defence of their rights is answered with a non-renewal of contracts by the contracting companies.

An Andaychagua worker points out: “I have seen colleagues who have made a complaint or spoken of a defect, and the following month their will no longer get their contract.” (Tipper driver 110820_16).

“That a worker would use his voice of protest against some type of non-compliance is one of the main motives of the contracting companies for withdrawing the worker from the payroll. [...] If you make any kind of complaints, or claim something, your salary or the use of PPE, you are automatically no longer considered for the next contract.” (Mayor of the Centro Poblado de San José de Andaychagua).

Antapaccay: “Sometimes you have made a claim, either for your PPE or because they have been late in paying your AFP (pensions fund), so they see you as problematic and for sure that after a month or two months you no longer get your contract.” (Worker in the maintenance department, 120820).

Antapaccay: “The fact that I am no longer there working for the company was because I was leading these claims. The few who have stayed and the ones who have left have not received any compensation or settlement. I did not make the complaint official because he caught me in the middle of the I didn't formalise the complaint because it caught me in the middle of a pandemic. But afterwards I did make a virtual complaint to SUNAFIL, I also sent some letters to the owner of the contracting company.” (Former field supervisor, 050820).

- c. Failure to deliver a copy of the contract.** Peruvian law requires that the worker have a copy of their employment contract. In Andaychagua, only 11.6% of those interviewed say they do not have a copy of their contract, and this situation seems

⁷ Ministerio de Energía y Minas [MINEM]. (2020c). Índice de Frecuencia y Severidad sobre Accidentes de Trabajo. Lima: Minem https://www.minem.gob.pe/_estadistica.php?idSector=1&idEstadistica=12486

to have been caused by the exceptional situation during the covid-19 pandemic. In Antapaccay however, the problem is long-standing and affects 26% of outsourced workers interviewed.

- d. Non-payment for overtime:** The working day in the mining sector implies long working hours, and many times the contracting companies request overtime work, which often goes unpaid. Both in Andaychagua and Antapaccay, most of the outsourced workers worked overtime (80.2% and 91.8% of respondents respectively). In both cases, at least half of those surveyed (45.5% in Andaychagua and 49.2% in Antapaccay) never received a payment for that extra work. However, there is a common practice of compensating overtime with hours off, as one worker from Antapaccay points out:

“You have to understand that our normal working day is between 10 and 12 hours, so if you ask me if we have worked more than 8 hours, that is normal. We have to save up overtime hours to comply with our regime and to be able to get days off. [...] I have never been paid overtime. What they give me are my days off, I save up hours so that I can get days off soon.” (Heavy equipment operator, 010820).

- e. Difficulties in getting access to holidays:** Short-term contracts make it difficult to enjoy **holidays**. Despite this, in Andaychagua, 95% of those surveyed indicated that they had access to **holidays**. This situation is different in Antapaccay, where 46% of those interviewed were unable to take their holidays.

Antapaccay: “I have not had any holidays and the same goes for several colleagues, because we constantly go from one company to another, then they dismiss us from one and we can no longer take a holiday.” (Worker in the mine earthmoving area, 120720).

5.3 Main violations of workers' rights in the area of health and safety at work

According to what was recorded in our field work, the contractor companies have deficiencies in some areas affecting health and safety at work.

- a) Insufficient training:** Although most of the workers report having been trained by their contractor companies or by the mining company (86% in Andaychagua), the frequency and duration of the training is insufficient. In terms of frequency, most workers claim to have received between 1 and 2 trainings (64% in Andaychagua), and the rest have received more than three trainings per year. This average of 1 to 2 trainings per year is small for the requirements of the Annual Training Program according to the Regulations for Occupational Safety and Health in Mining. Another problem is the duration of the training. For example, in Andaychagua, 15% of training sessions lasted less than 1 hour, and 61% between 1 and 4 hours. In the case of Antapaccay, 19.7% mentioned having received training for less than 1 hour, while 41% stated that they had received training for between 1 and 4 hours. Cases of false training are also reported.

An interviewee from Antapaccay points out: “I did receive training, but what happened sometimes was that the contractor told us that there was going to be

training and in the end there was no training and we still had to sign an attendance sheet as it did take place.” (Heavy equipment operator, 010820).

- b) Difficulties with Personal Protective Equipment:** The provision of Personal Protective Equipment (PPE) is generalised for contractor workers in the two mines (100% of those interviewed in Andaychagua and 97% in Antapaccay reported that they had PPE delivered to them), and in most cases, the contractors comply with giving it for free. However, an important group reported having problems with PPEs. In Andaychagua, 32.2% indicated that they presented problems or inconveniences when acquiring PPE. The issues concern the nature of PPE: second-hand, worn, dirty, or not exactly fitting in size for the user, which generates numerous inconveniences as well as risks to the health and safety of the worker. At Antapaccay 36% of workers reported similar PPE issues.

“What they [the outsourced workers] demand is working conditions that include good PPE, which they [the contractors] do not provide, [or] provide at the wrong time; but they still demand that they [the employees] continue working, that they show advances [in their work]. But if they do not provide them with the conditions, by necessity people [the workers] do what they can to carry out their work.” (Lieutenant Governor of Andaychagua).

- c. Medical assistance in case of accidents:** Although all workers have Complementary Risk Insurance, a percentage of workers (15.7% in Andaychagua and 8.2% in Antapaccay) have reported that the contractor company has never provided facilities for them to be treated when they suffer an accident or health problem at work. The percentages of workers that indicated that they received such facilities “almost always”, “sometimes” or “seldom” were 41% for Andaychagua and 31.2% for Antapaccay.

- d. Non-recognition of work accidents:** Respondents reported that contracting companies do not always recognise work accidents for what they are, in order to reduce their accident rate indicators vis-a-vis the mining company. Thus, in Andaychagua, out of 15 interviewees who had suffered work accidents, only 3 were reported as such. The rest were reported as “common accidents”. At Antapaccay, only 2 out of 5 interviewees who had work accidents, stated that their accident was reported correctly.

“I had an accident once at work, but I don't know how it was reported to the Antapaccay company. Many times what they did when there was an accident was that they evacuated you from the workplace without the mining company knowing, and took you to a medical centre. I don't know what they would report afterwards to the company.” (Heavy equipment operator, 010820).

5.4 Violations of trade union rights

There are no unions for outsourced workers at either of the two mines, nor have workers reported any failed unionisation attempts.

- a. Little information on trade union rights:** Most workers are unaware of trade union rights (55.4% in Andaychagua, 67.2% in Antapaccay). There is however a significant group at both mines that indicates that they are aware of such rights through their previous jobs (37.2% in Andaychagua and 24.6% in Antapaccay).

“Here in Antapaccay there is no union for contractor workers, only for the company itself [Antapaccay], so we do not know what we are entitled to, nobody trains us. That is why we request to be trained.” (Worker in the maintenance department, 120820).

- b. Reasons for non-unionisation:** When workers are asked why they are not unionised, most common answer is because there is no union (89% in Andaychagua and 50% in Antapaccay). But it is important to note that at the Antapaccay site, 35% of respondents indicated that they are not unionised for fear that their contracts will not be renewed. The opinion that unions are not important is marginal at both sites (8.5% in Andaychagua and 6.7% in Antapaccay).

“If there is no union to complain to, then how are we going to feel supported if we want to claim our rights? Nobody wants to lose their job because we all need to bring food home.” (Worker in the mine’s earthmoving area, 120720).

“Since we do not meet the minimum quota then we cannot form a union, and there is no existing union we can go to.” (Tipper operator, 090720).

- c. Perception that the contracting company would have a negative response if workers were to unionise:** More than 60% of workers at both mines (63% in Andaychagua and 62.7% in Antapaccay) agree that there would be negative consequences for them who would attempt to unionise. The main consequence would be the loss of their jobs, through a disguised dismissal or non-renewal of their employment contract.

As an Antapaccay worker puts it: “No, because the company, as soon as it learned that we participated in a union, would immediately retaliate against us: at the end of our contract we would be laid off.” (Conductor, 140720_01).

Conclusions

- 1) The exploitation of mining resources can be understood as a chain, an ordered series of consecutive links that together generate commercial value. The links in the main mining value chain are i) the extraction of the mineral, ii) the obtaining of valuable minerals (the benefit phase), and iii) the maintenance of equipment in both links. Each link can be split up into a series of processes with corresponding

- jobs (functions). i) Mineral extraction (around 26 functions) involves the processes of drilling the earth, blasting the rocks, and loading and transporting these rocks. ii) The profit (about 70 functions) begins with the process of crushing, grinding and regrinding the extracted rock, classifying the of particles, concentrating of the mineral followed by thickening, filtering and transport of concentrates (or rich mixtures) for sale. iii) Maintenance (102 functions), mechanical and electrical, is carried out across all processes, both in the mine itself and in the beneficiation plant. In Andaychagua we see Extraction (22 functions), Benefit (69 functions), and Maintenance (102 functions) as links in the chain. The Antapaccay operation presents the same links, but the number of different functions for each link varies: 15 functions in Extraction, 49 in Benefit and 77 in Maintenance. In spite of these varying sets of functions for some processes, both mining companies operate a complete mining value chain.
- 2) In Peru, the labour legislation regulates outsourcing, which is used extensively in various productive industries, including mining. Mining is a highly competitive business that seeks to maintain high productivity at the lowest cost. To this end, its business model includes outsourcing various phases and processes throughout the production chain. Both the literature and the field data gathered in the study show that the outsourcing of links in the value chain is primarily a cost cutting strategy (even when the need for ‘specialists’ in certain production phases is used as an argument for outsourcing). An outsourced worker “costs less” than one working directly for the main company - which translates not only into relatively low wages, but also into working conditions that are less costly for the main company, as outsourcers do not always comply with all workers' rights, such as social benefits, profits, working conditions, health and safety at work and freedom of association.
 - 3) Despite the fact that in the mining sector as a whole, outsourced work made up 56.6% of employment in 2019 (MINEM 2020, Mining Employment Report 2019, pg 15), in Andaychagua and Antapaccay outsourcing involves more than 70% of workers. The use of outsourcing at both mining sites has some common characteristics: i) important parts of the core business of the mining operations are outsourced, specifically the exploration phase, as well as the maintenance process, ii) some of the tasks are high risk, and require intensive physical labour, and iii) most tasks carried out by subcontracted workers require few qualifications, sometimes no more than a certification for the handling of machinery or equipment. But while in Andaychagua the tasks of the contractor companies are clearly differentiated from the tasks assumed by the mining company, in Antapaccay, the exploration tasks are shared between direct workers and outsourced workers. This is an indication of improper use of outsourcing, according to Law 29245 and its implementing regulations..
 - 4) Our field work results allow us to point out that, at both mining sites, the contractor companies meet the minimum requirements labour law demands from formal companies. There is no indication of any informal work at the mining sites studied. Workers sign employment contracts that allow them to at least receive the minimum wage and have social security coverage. Problems of delayed payment or non-payment of employment benefits such as bonuses or CTS

(dismissal insurance in the form of a savings account) are marginal, although they have increased in the context of the pandemic.

- 5) Despite this basic security for outsourced workers, their jobs are the least paid in the sector, with an average wage gap of 39% for general operations personnel, between direct and outsourced workers, according to our fieldwork data. Likewise, the benefit of profit sharing constitutes a substantial increase in the annual income of direct workers. In the case of outsourced workers, if and when they enjoy this right (87% in Andaychagua and 42.6% in Antapaccay), the amounts received only occasionally exceed three months' remuneration.
- 6) In the area of employment, there are problems arising from the intensive use of short-term contracts, which show signs of illegality and have a negative impact on the stability of employment and on employment benefits of outsourced workers. In both mines studied, 100% of the workers surveyed work on fixed-term contracts with very short periods, of 1 to 3 months, for most of them. This high job instability increases the risk of job loss through non-renewal of contracts, a practice that constitutes a form of a disguised dismissal. Outsourced workers are well aware of this. The interviewed workers who were no longer working for mining subcontractors indicated that non-renewal of contracts was the main cause for the loss of their jobs. All of them perceived their attitude in defence of their rights to be the reason they were no longer hired..
- 7) Violations of workers' rights have been found regarding some specific employment benefits related to the provision of copies of contracts, payment of overtime and access to holidays. Not receiving a copy of their contract affected 11.6% of workers surveyed in Andaychagua and 26% of those surveyed in Antapaccay. Non-payment of overtime affected 45.5% at Andaychagua and 49.2% at Antapaccay. Not getting the opportunity to enjoy holidays affected 46% of workers interviewed at Antapaccay.
- 8) Regarding rights related to health and safety at work, several violations have been found that lead to a higher accident rate and greater vulnerability for outsourced workers. As in other cases already discussed, standards are formally met, but the conditions for compliance are deficient. Thus, we find that most workers report having received training (86% in Andaychagua), but the frequency of training sessions (1 or 2 per year) is below that required in the Mining Occupational Health and Safety Regulations, and their duration is clearly insufficient. Another problem is the availability of Personal Protective Equipment. Most workers at both mining sites indicate having received PPE, however, a third of those interviewed in each mine indicated that there were problems with their equipment and that they had difficulties in accessing to adequate equipment. Finally, although only 15 workers in Andaychagua and 5 in Antapaccay indicated having had a work-related accident (data from field work), workers did indicate meeting resistance from the contractors to report occupational accidents for what they are and not as common accidents. It must be considered that the contracting companies are audited by the mining company that hires them and that they must show "good" accident statistics.

- 9) The non-existence of unions in the contracting companies of the two mining sites studied is an expression of several factors. The first is that a significant percentage of workers are unaware of their rights regarding freedom of association (55.4% in Andaychagua and 67.2% in Antapaccay). The second factor is the general perception among the workers surveyed that unionisation will cause a negative response from the contracting companies, meaning their contract will not be renewed. The risk of non-renewal of their employment contract is once again the main inhibitor to the organisation of workers. Anti-union sentiment is very low among the workers interviewed (8.5% in Andaychagua and 6.7% in Antapaccay). It is worth noting that no efforts have been reported from the main company or from the direct workers' unions to promote or facilitate unionisation among subcontracted workers of the mining companies studied.

- 10) Recurrence of non-compliance. From all the above, it is evident that a significant number of violations exist, especially regarding certain employment benefits, the duration of contracts, the resources that contractors should provide to workers (EPP, training and medical assistance), the recognition of overtime and support for unionisation. This confirms that the contribution subcontractors make to the competitiveness of the mining industry is directly related to the increasing precariousness of outsourced workers. The problem, then, is not the search for more productive and efficient businesses in itself, but the possibility of this happening to the detriment of workers' rights. By making outsourced labour invisible in the business model, the interests of outsourced workers, their social and labour rights, career opportunities, occupational health and safety, wages, working conditions and rights to organise are being put at the disposal of business objectives: increasing productivity and reducing costs.