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Social Imaginaries About Lithium Mining in Puno, Peru

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Abstract

The discovery of a lithium deposit in the province of Carabaya, located in the department of Puno in Peru, and its probable exploitation in the coming years is creating expectations in the population of the towns involved, so the objective of the article is aimed at identifying the social imaginaries about the expectations that the exploitation of this mineral brings with it. The methodology applied was qualitative, as techniques for the construction of information, direct observation, semi-structured interviews and documentary review were used. The conclusions we reached reveal that the social imaginaries that have been built are different between authorities and the general population, while some authorities begin to express doubts about the existence of sufficient amounts of lithium, the population maintains greater expectations in its exploitation that would generate economic dynamism in the province and therefore in the region, and with it greater progress for the communities; however, they are also aware that this would generate discomfort due to the negative impacts that would be experienced and that it would affect the environment and livestock production.

Keywords: *Social Imaginaries, Lithium, Puno-Peru.*

Introduction

There is no doubt that we are in a period of energy transition (Fornillo, 2017; Kazimierski, 2018) due to the imminent depletion of oil reserves, climate change and environmental concerns; therefore, scientists around the world are interested in finding new sources of energy to meet the needs that will be required to cover the demand of transportation, industries and others.

The need to find new sources of energy is leading experts to experiment with different types of minerals and rare earths, one of them being lithium (Di Renzo, 2019; Zícari et al, 2019, Azumar, 2022) which, for many, could be an alternative for energy generation, as is already being experimented with in the manufacture of lithium cells and batteries used in electric vehicles.

In the South American context, there are reserves in the so-called lithium triangle located in territories of Argentina, Bolivia and Chile (Obaya, 2021). In addition, since 2017 (Vilca Arpasi, 2020) news has begun to spread about the discovery of reserves in Peru, specifically in the province of Carabaya, department of Puno. This occurred when Canadian companies, including Macusani Yellowcake, were carrying out explorations in search of uranium in the districts of Corani and Macusani, on lands in the communities of Isivilla, Tantamaco, Chimboya, Pacaje and Chacaconiza.

It should be noted that between 2014 and 2019, the Macusani Yellowcake company began its uranium exploration activities on land in the Chacaconiza community in Corani district, Carabaya province, but as a result of the explorations, they found traces of lithium and phosphate salts; however, despite more than a decade of exploration, to date it has not managed to obtain permission from the Ministry of Energy and Mines (MINEM) for its exploitation. We must consider that one of the factors that stopped exploration activities was the time of the pandemic, restarting work in 2022 to continue with the process of obtaining the permits required for the exploitation of the coveted mineral.

In this regard, a study conducted by Vilca Arpasi indicates that:

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In a context of high global expectations due to the increase in the price and demand for lithium in November 2017, the company Macusani Yellowcake, a subsidiary of the Canadian company Plateau Energy Metals, announced the discovery of an important deposit in the Falchani area, province of Carabaya, department of Puno.

According to initial estimates released by the company, it was the largest lithium-uranium district in the world with approximately 124 million pounds of uranium and 2.47 million tons of lithium12. Plateu Energy Metals subsequently updated the information on lithium, indicating that the amounts were even higher than initially anticipated, reaching 4.7 million tons, which would make Falchani one of the largest projects globally. (2020, p. 25)

These data were updated according to the statements that the manager of Macusani Yellowcake would frequently make. Thus, for example, in an interview given to one of the main Peruvian media outlets in April 2024, he stated that "[…] today, we have already launched it, it has been made public, we have reached a total resource estimate of 9.5 million tons of lithium carbonate, an equivalent that places us in fourth place worldwide" (RPP Noticias, 2024).

The continuous appearances of the manager of the Macusani Yellowcake company at conferences and/or radio and television interviews have generated expectations in the population of the department of Puno, especially in the province of Carabaya, where the authorities and the population in general have built their own imaginings and perceptions about the possible exploitation of lithium and the positive and negative impacts that would be generated.

Previous Studies

There is an interesting literature on lithium mining, as well as the imaginings and perceptions that individuals build about exploitation and the potential impacts it could generate. For the purposes of this article, we will focus on publications from the last six years.

In an article about the imaginary of mining that Mexicans have built, Navarro (2018) explained the true and false perceptions that citizens have of a society that is involved in mining situations, which are important factors that must be taken into account by institutions, companies and society itself in order to avoid misinformation and underinformation of the various actors, and in order to avoid making wrong decisions.

Argento (2018), in an article on the lithium extraction and industrialization project in Bolivia, stated that unlike the extractive activity of the raw material undertaken by Chile and Argentina, since 2008 Bolivia made the decision to keep the entire production process under state control, considering that the "[..] industrialization of lithium, far from being a public policy 'from above', has social origins and is articulated territorially with the dynamics and structures of collective action, unions and communities, which promoted the agenda of 'nationalization of resources'" (227). He also revealed that the territorial integration model of lithium is far removed from the extractive models that are taking place in Latin America that seek appropriation and intervention within their territories by companies and large transnationals with the figure of social responsibility. In turn, with collective integration, there is a high degree of acceptance and support for the lithium project and its territorial defense with a nationalist sense and the acceptance of the extraction of said mineral, without questioning the environmental aspect and the action before the international mechanisms on the collective rights of the people involved.

Gundermann & Göbel (2018) wrote about indigenous communities and lithium companies in the Salar de Atacama – Chile, pointing out that lithium has gained worldwide visibility for the process of transformation of new sustainable technologies. The arrival of large lithium companies to the Salar de Atacama was initially well appreciated by the local population, but over time this perspective changed, causing controversies and disputes over the environmental and sociocultural impact and the position of indigenous organizations in safeguarding their rights to the territory and the onerous profits generated by these companies observed by the population, and are not comparable to what they perceive in the communities and in their development.

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In addition to these negative aspects, he argued that it damages and alters the ecosystem in general due to its environmental liabilities.

In another article on energy storage and the role of lithium-ion batteries from South American perspectives, Kazimierski (2018) argued that, due to fuel depletion and climate change, new forms of energy transformation are being sought, such as lithium-ion batteries, which have become widespread since the 1990s. This new form of energy transition seeks to protect the environment and replace traditional models of electricity production. In 2015, more than 67.4 billion dollars were invested in projects of this kind, which characterizes these new energy paradigms, seeking to develop and expand new ways of accumulating energy from renewable sources such as wind, solar radiation, tides and waves.

On the other hand, Argento & Zicari (2018) addressed the issue of public policies and territorial conflicts in relation to the exploitation of lithium and the resistance processes of the communities of Salinas Grandes in the Atacameña Puna in Argentina, concluding that public policies regarding mining have been part of Argentina's economy since 1970, and with greater incidence in 1990 began with exponential growth forward, in this way these projects continue to be promoted as a rapid form of growth and foreign investment for increasing public income. In the case of lithium, being a mineral of great demand, only a purely economic look is given, without taking into account the indigenous communities where the mineral is found, making the voices and demands of these populations invisible.

Di Renzo (2019) considered that the main source of lithium deposits are the salt flats located in the lithium triangle (Argentina, Chile and Bolivia), opening a new panorama of opportunities at local and regional level due to the constant increase in the price of this resource. The same year, Zícari, Fornillo & Gamba (2019) published an article in which they reveal the importance that lithium has taken on the world stage as a new natural resource, being considered a new energy paradigm considering the dynamics of commercial material in products such as batteries and accumulators, resulting in the innovation of technological products in Southeast Asia.

Arellano (2021), conducting a study in the context of Atacama and Tarapacá in Chile, highlighted the way in which lithium began to gain importance at a time when its extraction was not yet predictable; however, the contribution of lithium developed in the circumpuneña region gained prominence in the 1970s due to its component for circulation as energy and matter and geological transformation by human activity, without neglecting technological, military and even pharmaceutical needs.

Juste (2021), in a research on lithium and the link with China, incorporated as a study context the subregions of the Gran Chaco and the lithium triangle as a form of integration and connection with China through sub-state units such as the Southern Common Market (MERCOSUR) and the Association of Southeast Asian Nations (ASEAN) since, having a cross-border proximity, they also seek alternatives to shared problems as they are territories that have important energy reserves such as gas, oil and lithium.

For his part, Vergara (2021), in a research carried out in the Ancasti community (Catamarca - Argentina), revealed the existence of some actors to resist the advance of lithium extractivism, questioning what and for whom is the future of the extraction of the resource. This situation has generated some socio-environmental conflicts and practices of re-existence in local territories. The author relied, as an ideological basis, on the ideas of Boaventura de Sousa Santos' Epistemology of the South, to build a new look at the local.

On the other hand, at the local level, under the auspices of the Association of Rural Educational Services (SER) and the support of the Ford Foundation, Vilca Arpasi (2020) presented a report on the exploitation of lithium in Puno, which at that time was in an initial phase, a situation that has not changed much at present. The document is of interest because it is one of the first references on the discovery of a lithium deposit in this region of Peru, the company interested in its exploitation, the legal impediments to starting the exploitation and the expectations generated in local actors.

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The non-governmental organization Human Rights and Environment - DHUMA (2022), carried out a study on lithium and uranium in the Puno region with the aim of providing clear information on mining projects in the province of Carabaya, which can serve the local population in making "[…] more informed decisions that safeguard their rights, well-being and exercise their self-determination" (p. 7), for this purpose it made known the companies involved in the exploitation of lithium and uranium and their respective projects, subsequently focusing on the potential environmental, cultural and health impacts of moving to the exploitation stage of said minerals. The conclusions suggested that such impacts could also be experienced in the biodiversity of the Andean ecoregion, in water sources and in human health.

Theoretical Bases

Theoretically, ideas about social imaginaries have been nourished by the first proposals formulated by Durkheim (1968) on collective representations, where the intrinsic nature of representation is highlighted and the dualism between the material and the ideal is questioned, making it difficult to recognize the practical dimension of social representations as an essential component of social reality. From the field of Anthropology, Durand (2005) develops and explains the anthropological bases of the imaginary from the symbol and the myth, where the symbolic acts as a language that transmits a meaning that transcends the perceptible, while the myth gives meaning to the social world. For the purposes of the article we will rely on the proposals formulated by Baeza (2004) and Pintos (2014). According to Baeza, social imaginaries are understood as "multiple and varied mental constructions (ideations) socially shared with practical significance of the world, in a broad sense, intended to provide existential meaning" (2004, p. 2). For Pintos (2014, p. 7-8) "social imaginaries are socially constructed schemes, which guide our perception, allow our explanation and make possible our intervention in what is considered reality in different social systems"

The Area of Study

The research was carried out in the districts of Macusani and Corani, located in Carabaya province, Puno department (southern Peru). According to the results of the 2017 Census (Instituto Nacional de Estadística e Informática – INEI, 2018), the province of Carabaya has a population of 73,322 inhabitants, and its districts of Macusani and Corani have 12,664 and 4,240, respectively. Both districts are located in the Andean macroecosystem at an altitude of over 4000 meters above sea level, these are ecosystems characterized by the presence of snow-capped mountains and glaciers, soils with varied relief, rivers, streams, lagoons and wetlands.

The main economic activity of its population is agriculture. In agricultural activity, the cultivation of potatoes and coca leaves (part of the jungle edge) stands out. Livestock activity is characterized by the raising of mixed herds of alpacas and llamas; the population is also dedicated to commerce, transportation, construction and employment in public institutions. Regarding mining activity, at least 7% of the population is dedicated to gold mining due to the presence of formal and informal mining companies.

In addition to its importance in mining, the province of Macusani and its surroundings have impressive landscapes, such as the presence of majestic snow-capped mountains (Allin Capac, Chichi Capac) and imposing glaciers such as Quelccaya and high mountain lakes that are considered guardians of the area. It is also home to indigenous communities of Quechua origin that have preserved their cultural traditions over time, contributing to the cultural diversity of the region, who are mainly dedicated to raising alpacas, being considered the "Alpaca Capital of Peru and the World".

Finally, the province of Carabaya is home to a rich cultural heritage due to the existence of cave paintings in the districts of Macusani, Corani, Ituata and Ayapata, and petroglyphs in Coasa (Municipalidad Provincial de Carabaya, 2022).

Methodology

The research was conducted using a qualitative approach. As research techniques for the construction of information, field trips were carried out during the months of August to December 2023 to the districts of

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Corani and Macusani where direct observation was carried out. Interviews were conducted randomly with current political authorities, civil society leaders and residents; on the other hand, it was necessary to resort to a documentary review to learn about the state of the art of the topic raised. To systematize the interviews, the ATLAS.ti software was used, which allowed the development of semantic networks that served as a guide to writing the results of the study.

Results

In this section, we will present the imaginaries constructed by the authorities and population of the districts of Macusani and Corani, province of Carabaya, and what their relationship is with mining activity and alpaca production; likewise, we will present the imaginaries about the presence of lithium in the area and the possible positive and negative impacts that could be experienced if the lithium exploitation stage is carried out.

Imaginaries About the Province, Mining Activity, Water Resources and Alpaca Production

Some general data and characteristics of the province of Carabaya were presented in a summarized manner above. For the purposes of the article, it is necessary to make known the imaginaries of its population about the province in which they live and in this way, have an idea about how they perceive their province, its potential and the problems that afflict them.

It is not surprising that local authorities and the general population have high expectations about the minerals in the province of Carabaya, announcing the existence of a great mining potential such as silver, zinc, uranium, lithium and other resources that are not being exploited adequately beyond gold, which is being exploited in an artisanal manner.

Regarding the findings of uranium and lithium deposits, there is general knowledge, although many do not know exactly their potential, what is certain is that their exploitation would be less polluting than other minerals, so they perceive that well-managed mining could significantly benefit the entire population and not just a few as is currently the case with the exploration of other minerals.

There is a widespread perception that despite being an area with the presence of both formal and informal mining companies, there is no information on the impacts that the possible exploration of lithium could generate. However, one of the concerns that stands out, and is related to the exploitation of minerals in the area, is the scarcity of water resources that has been decreasing year after year, causing a shortage of pastures and thus harming one of its main economic activities such as alpaca breeding, reducing its production and causing serious illnesses. On the other hand, they consider that the Allin Capac snow-capped mountain, located approximately 18 km from Macusani, is the only water reserve of great importance that exists in the province, which could be harmed by the environmental contamination that mining exploitation would generate, although for another sector of the population, they state that it would not be harmed because it is somewhat far from the area of influence where the lithium deposit is located.

On the Existence and Possible Exploitation of Lithium

According to statements made by the manager of the Macusani Yelowcake company in various written and virtual media, uranium exploration in the province of Carabaya began in 2006 and, by chance, in 2017 they discovered a lithium deposit (Saldarriaga, 2019). He also maintains that today no one in the Puno region opposes its exploitation and that unlike Bolivia, Chile and Argentina, whose lithium deposits are in salt flats, the one found in Macusani is in rock, that its exploitation would begin in 2027 and that its commercialization would not be as raw material "[...] we are going to give added value to production, we are going to reach battery grade lithium carbonate of minimum purity 99.5, that is already the added value, we are going to put a refinery, we are going to extract the lithium carbonate, we are going to export it" (RPP Noticias, 2024).

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This is part of the imaginary that the company has been constructing about the presence of lithium in the province of Carabaya, and when expressed through the media, it influences the imaginary that the population constructs about its existence, the possible exploitation of the mineral and the probable impacts.

There is a widespread idea about the exploitation of lithium, indicating that it should not be sold as a raw material, but that it should be transformed into batteries and even the possibility of manufacturing electric cars as is being done in Bolivia, for this it is necessary for the Yellowcake company to install factories in the area that help transform the raw material. However, there is a part of the population that doubts the existence of lithium, mainly the current mayor of Macusani declaring and maintaining in a digital media outlet that it is not true that lithium exists as stated by the Yellowcake manager, and that it would only be speculation by the company for its own benefit (El Objetivo, 2021), despite the fact that since the existence of lithium was made known, it was one of the first to begin to spread the word about the discovery of the deposit and the benefits it would bring to the province and the region in general.

This imaginary about the existence or not of lithium in the province of Carabaya, has somewhat divided the civil population; however, a large part of the population is convinced of its existence due to the strategic geographic location of the province, since it is located in an area where mineralization is natural and therefore, it is not ruled out that in the short term its exploitation can be carried out, bringing benefits to the province and the region.

Positive Aspects of Lithium Exploitation

The desire of the population and its authorities is that the province and its districts succeed in developing in all areas of mining, and especially lithium. However, the mining activities that are being carried out in other mining contexts, whether neighbouring or not, generate positive and negative opinions, as reflected in the following testimony:

Mining in our region has its advantages and disadvantages. One of the disadvantages is that it contributes to environmental pollution, rivers, deforestation of part of the subsoil, part of what the cattle eat. We know that in our province of Carabaya they are mostly dedicated to cattle raising. On the other hand, one of the advantages would be that it contributes to the mining royalties in our region (male, 24 years old).

The information that reaches the population about the amount of lithium reserves that exist, the interest of the Yellowcake company in the exploitation and transformation of the raw material, added to the low level of development and poverty of the locality, has been generating positive expectations in the population.

The social imaginaries of the population regarding lithium mining are marked by a hopeful vision of the possible positive effects that this activity could generate by boosting the regional economy, which would be reflected in the development of the province, the region and even the country. Part of the population sees the exploitation of this mineral as an opportunity to improve the local economy, attract investment and generate employment, elements that would contribute to improving infrastructure, public sanitation, educational and health services. Lithium mining is then presented as an opportunity to get out of poverty and improve general well-being, provided that policies are implemented that balance economic development and environmental protection.

In this sense, regarding the imaginaries related to the positive aspects that lithium exploitation would generate, we identified the following categories: development, economic growth, city growth, work and higher education. For the purposes of the analysis, we have grouped them into two categories: development and higher education.

Regarding development, the social imaginaries of the population are visualized in the revitalization of the local and regional economy, due to the need to cover the demands for services and products generated by mining activity, as expressed by the residents themselves.

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[…] it is thought that the economy will grow. All the people are waiting for that, right? We have the transporters, those who sell clothes, food, etc., all the businesses would benefit from mining. So, all the people are waiting anxiously. (Male, 30 years old)

Lithium mining will be economically beneficial for our department. Not only that, but it will also provide many job opportunities for the communities, for the district of Macusani, so there will be employment, business opportunities in many factors so that the population can somehow have a livelihood, work. Lithium is known as white gold, which leads us to join one of the lithium exporting countries, which leads to the development of our province of Carabaya and our department of Puno. (Woman, 24 years old).

Economic growth would also allow the growth of towns, mainly the city of Macusani, this fact would generate greater demands of all kinds, since it is expected that there will be an increase in road infrastructure, buildings, lodgings, as well as the installation and creation of new public and private institutions. On the other hand, it is expected that many jobs will be generated both for mining activity, and to cover the needs that this demands, a situation that will mainly benefit the younger population, although there is fear that the best-paid jobs will benefit foreigners.

The population is aware that it is not adequately trained to meet the demand for jobs, so they expect that higher education centers can be created, both at university and non-university level, aimed at strengthening the capacities of young people and able to meet labor demands. An incentive to this imaginary is the recent creation of the National University of Carabaya, which, through Law No. 32011, promulgated in April 2024, revives the aspirations of the population to have a university for the professional training of its young people.

Given these positive social imaginings, lithium mining is presented as an ally for development, progress and a tool to combat poverty, as long as the rights of local communities are respected and negative impacts are minimized. This optimistic vision projects a future for the province of Carabaya so that it can take advantage of its natural resources and move towards more equitable and sustainable development. However, the contexts where lithium extraction is currently taking place must be taken into account, as is the case of Chile where, with the arrival of lithium companies to the Salar de Atacama, this was initially seen in a positive light, but over time these perceptions changed, especially due to environmental damage (Gundermann and Göbel, 2018). Cases like these should be milestones for analysis in order to identify the negative impacts that are occurring in the lithium exploitation process and thus, propose mitigation measures to avoid future socio-environmental conflicts.

Negative Aspects of Lithium Mining

An ideal scenario is expected in which the province of Carabaya achieves economic, social and environmental development as a result of lithium exploitation and, with it, the quality of life is improved; however, in the social imagination of the population there are also images of negative impacts reflected in the following categories: environmental pollution, decrease in alpaca production, damage to human health, land dispossession in Corani, destruction of cave paintings and the generation of social conflicts.

Environmental pollution from mining activities is one of the main concerns of the population. This concern is fueled by the information disseminated by the media, the intervention of environmental non-governmental organizations in the region, as well as the experience of what has been heard, seen and/or experienced with what has been happening in similar contexts, such as the case of La Rinconada (Brousett-Minaya et al, 2021).

The greatest fear of the population is the contamination of water sources, essential for human consumption, crop irrigation and livestock activity. In local narratives, mining is associated with the release of toxic chemicals that affect rivers, lagoons and springs, putting at risk the health of the population, animals and the environment in general. There is also fear that the eventual exploitation of lithium will cause soil degradation, which would directly affect agricultural and livestock production. In their imaginations, they visualize a desert and contaminated landscape, in which natural grasslands are replaced by arid areas, dust

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and mining waste. In addition, there is fear of a negative impact on wild fauna and flora and cultural heritage, affecting the biodiversity existing in the province and the region.

Decline in Alpaca Production

While it is true that, with the exception of 2023, rainfall in the region has decreased considerably as a result of climate change, and has had a negative impact on alpaca production in the province of Carabaya due to the lack of adequate growth of natural pastures essential for feeding the animals, the local population maintains this activity because it represents a source of income through the sale of fiber and meat, and because it is an essential part of their life and cultural identity. In this context, news about the possible exploitation of lithium in the province has generated a series of social imaginaries among the inhabitants of Carabaya who see extractive activity as a direct threat to their traditional way of life.

Another concern that has been identified is the decrease in lands used for grazing, because the mining company has been negotiating the acquisition of land for several years, mainly in the district of Corani, which through its area of social responsibility, has been working hard to acquire land from the population and convince the community to grant it the social license for exploitation. We must remember that a large part of the communities in Puno region are divided into parcels, giving birth to private owners, and the communities where the Yellowcake company is located are no exception, so there are owners who are willing to negotiate their land to look for other economic alternatives other than raising alpacas, with the instability of the climate and the low cost of fiber and meat being complicit in this. On the other hand, there is a part of the population that, despite being owners of land, shows fear or uncertainty about transferring it to the company, since they are aware that mining activity is temporary.

Another part of the population maintains a skeptical view of lithium exploitation, and in their social imagination mining is perceived as an activity that, although it can generate income in the short term and operate for at least a couple of decades, does not guarantee sustainable benefits for the population or the environment. Alpaca breeders fear that the promised benefits (commercial and labor) will not compensate for the long-term losses, especially if their land and resources are irreparably damaged. It is feared that mining activity will generate soil contamination and alter water sources, which would seriously impact not only pasture production, but also the health of livestock, so the residents express concern about the future of production in the area.

Disappearance of Cave Paintings

In addition to concerns about environmental pollution, another concern of the population is what could happen to their cultural resources, as clearly recorded in the following testimony:

Pollution will mainly lead to the loss of resources, customs and heritage. Corani is not only rich in resources, but also has many archaeological sites that we hope will not be touched. (Woman, 29 years old).

The potential exploitation of lithium has raised concerns about the preservation of cultural heritage, particularly in relation to the destruction of existing cave paintings in at least four districts of the province.

In the social imagination of the population, cultural heritage is not only represented by archaeological remains, but they are symbols of local identity and their connection with their ancestors. These cultural manifestations, dating back thousands of years, are seen as part of a sacred landscape that tells the story of ancient inhabitants and their ways of life. Mining, perceived as an intrusive activity, is seen as a direct threat to the integrity of these paintings. The inhabitants fear that explosions, drilling and earthworks will cause irreparable damage to the sites where these rock art expressions are found, so mining appears as a possible destroyer of cultural heritage.

Given this situation, it is necessary to consider the experiences of other contexts, where the protection of cultural heritage can be safeguarded by State entities through its recovery and, if necessary, recreating spaces

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where the different portraits can be displayed and the importance they can have in strengthening local identity can be made known.

Generation of Social Conflicts

The debates surrounding lithium mining have also generated divisions within the community. While some see mining as an opportunity for progress, others consider it a direct threat to their way of life. The polarization of opinions is already beginning to generate discomfort among the local population and if lithium mining becomes a reality, it will generate social conflicts, as has been experienced in other mining contexts at a national level (Marín & Rébora, 2015). In the case of the Puno region, this concern is also expressed by residents of various communities, as detailed in studies on social imaginaries in mining contexts in the region (Quispe-Mamani et al., 2022 and Quispe-Borda, 2023).

Social conflicts would arise, among other things, from the failure of mining companies to keep their promises, mainly related to commercial and labor activities, as well as from the violation of the rights of local communities, which could lead to confrontations and greater polarization and position-taking among the same members of the community, which is why they perceive that social conflicts would be exacerbated by the eventual exploitation of lithium by the company.

Part of the population identifies mining activity and companies as sources of corruption that would be generated not only among community authorities (community president, justice of the peace, lieutenant governor), but could even escalate to officials of local public entities, causing individual interests to prevail over collective ones and with a certain favoring of the company.

Conclusions

The social imaginaries about lithium exploitation built by the population of the districts of Macusani and Corani are similar and divergent. They are similar because of the interest they show in the development of their localities, considering that mining activity in general, and especially lithium, is the only one that will allow greater economic flow, thus the progress of the city, surrounding towns and the population in general, despite the fact that they are also aware that this activity would generate environmental pollution and an endless number of social problems that occur in mining contexts. They are divergent, since there are those who support the beginning of mining activities, which apparently is the majority; on the other hand, there are those who do not support this activity and join the rejections against mining of a large sector of the population of the Puno region, especially in the southern area, where for several years they have been preventing the development of this activity in the region.

Regarding alpaca production, social imaginings are deeply intertwined with ancestral knowledge, traditional ways of life and as a vital activity for the local economy and culture, reflecting the fear of the negative impacts that mining could generate, considering it as an agent of transformation that could displace traditional practices. One of the main fears is the loss of grazing lands, since the areas designated for mining could reduce the spaces available for grazing, and there is also fear that environmental pollution will affect both the quantity and quality of pastures, water sources, as well as the health of livestock.

Although the mining company and some authorities promote mining and the benefits that would be generated by the exploitation of lithium as an opportunity for development, in the social imagination of a large sector of the population there is a fear that the economic benefits do not compensate for the environmental and cultural losses. There is even the fear of the proliferation of social conflicts, with the risk of producing divisions within the communities between those who support and those who reject mining, generating a vision of an uncertain and conflict-ridden future.

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and realities about lithium exploitation in Puno, Peru", corresponding to 2023 and 2024 period. We must also thank the authorities and residents interviewed from the districts of Macusani and Corani, without whose opinions the preparation of this article would not have been possible.

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