



Human Rights Impact Assessment for the Ixtaca Project, 2023.

Center for Intercultural, Juridical and Environmental Research

TABLE OF CONTENTS

PRESENTATION	3
Prelude	3
Presentation	4
Almaden Minerals Ltd. (“Almaden Minerals”) and the adoption of a Human Rights Policy.....	5
What is Due Diligence?	5
What is an HRIA?	6
HRIA working methodology	8
HRIA work team.....	9
Academic Advisory Committee.....	9
Community committee.....	10
Activities carried out.....	11
WHAT IS THE IXTACA PROJECT?	14
What does the HRIA assess?	14
What is the area of study of the HRIA?.....	15
MAIN RESULTS OF THE HRIA.....	21
Result 1: Social configuration.....	21
Result of the workshops.....	23
Result 2: Human Rights Baseline.....	35
Result 3: Participation of rights holders.....	37
Result 4: Phase IV of the HRIA	40
Result 5: Potential environmental impacts.....	42
Result 6: HUMAN RIGHTS IMPACTS IDENTIFIED AND MEASURES TO AVOID AND MITIGATE.....	49

PRESENTATION¹

Prelude

When applied under rigorous methodologies, the Human Rights Impact Assessment (HRIA) represents the most important tool for assessing the impact of a private, public or mixed sector company's actions on the potential of affected parties (peoples, communities and individuals) to enjoy their human rights. The "Guiding Principles on Business and Human Rights" refers to it as follows:

**Table 1.
Guiding Principle 17**

In order to identify, prevent, mitigate and respond to adverse human rights impacts of their activities, companies should conduct human rights due diligence. This process should include assessing the actual and potential human rights impact of activities, integrating findings, and acting on them; monitoring responses and communicating how adverse impacts are addressed. Human rights due diligence:

- a) Should cover adverse human rights impacts that the company has caused or contributed to through its own activities, or that are directly related to its operations, products or services provided through its business relationships;*
- b) Will vary in complexity depending on the size of the company, the risk of serious adverse human rights impacts and the nature and context of its operations;*
- c) Should be an ongoing process, as human rights risks may change over time, depending on the evolution of the company's operations and operational context.*

Guiding Principle 17 shows how companies within this Due Diligence process must carry out a process to prevent and mitigate impacts from their own activities. To do so, an HRIA must be carried out. At this point, it is necessary to pause for a moment and point out that the collection of the necessary information to carry out this HRIA is complicated. The information is drawn from public sources and from tools provided by social science methodologies (interviews, focus group workshops and surveys) in order to involve as many interested and affected parties as possible in the assessment process. It is recognized that all parties involved in an HRIA will have their own interests and processes for establishing their views. Comments from interested and affected parties should not be criticized or evaluated, but simply received and considered as a reflection of that party's opinion at a particular point in time, and taken into account when establishing mitigation and/or compensation strategies. Naturally, there may be points in favor, against or with indifferent positions. At all times, spaces for dialogue should be sought in order to allow for their initial participation. An HRIA is a "living" or "continuous" document, so when the final assessment is available, it should be provided to titleholders and other stakeholders to establish channels of communication with the promoting companies. And, with those who for some particular reason have not participated, seek spaces to hear their opinion on the human rights impacts that are of concern to them.

It is to be expected that for any business activity there will be a range of potential human rights impacts and a range of views on the merits of that activity. This makes conducting independent HRIAs daunting for their sponsors, as the results will be as complicated as human nature. They will never be all for or all against, but will expose a wide range of opinions, rumors and facts that will need to be considered and subsequently addressed through the development of mitigation strategies and other measures.

As far as we know, this is the first time that a company has requested an independent HRIA, in this case using the methodology proposed by The Danish Institute for Human Rights (DIHR) on a mining project in Mexico. It should be noted that, following the publication of the company's political commitment to

¹ This summary refers to the results of the assessment process analyzed up to January 2023.

human rights, the company sought to implement the Due Diligence guidelines, and one of the key elements is to have an HRIA. To this end, it is important to refer to the “Guiding Principles on Business and Human Rights”, which serves as the basis for this HRIA:

Table 2. Guiding Principle 18
<p><i>In order to gauge human rights risks, companies should identify and assess the actual or potential adverse human rights impacts in which they may be implicated either through their own activities or as a result of their business relationships. This process should:</i></p> <ul style="list-style-type: none"> <i>a) Use internal and/or independent human rights experts;</i> <i>b) Include substantive consultation with potentially affected groups and other stakeholders, depending on the size of the company and the nature and context of the operation.</i>

This HRIA reflects months of work by a team of independent experts to identify the human rights impacts that the Ixtaca Project may cause within the Project’s area of influence. In the words of the Academic Advisory Committee it was “developed in accordance with sound procedures, based on international standards and good practices, as well as professionalism, seriousness and good faith.” We hope that this HRIA will serve as a model for all significant projects in Mexico whose proponents are committed to Human Rights Due Diligence and the maximum enjoyment of human rights for the peoples and communities of Mexico.

As noted below, the HRIA concludes that the impacts identified, given the early stage of the Project, can be avoided or mitigated through actions that translate into plans and programs, which in turn will be aligned with the company’s Human Rights Policy, and it is recommended that they always be accompanied by the Guiding Principles on Business and Human Rights, the OECD Guidelines, among other national and international guidelines. Given the early stage of the Project, there is enough time to design and implement them, and thus avoid their occurrence or reduce the magnitude of the impact.

The team that coordinated and conducted the HRIA at all times sought to ensure that the assessment included the participation of rights holders and stakeholders. A warm invitation is extended to all civil society organizations and other stakeholders to open spaces for dialogue with the objective of making the HRIA tool a daily practice in corporate due diligence processes. There are a series of important challenges in the short, medium and long term, the most important of which is to ensure that companies in general in Mexico adopt a corporate culture of conducting human rights impact assessments, with the participation of the subjects of rights and thus identify measures to prevent, mitigate and compensate impacts.

Presentation

This Executive Summary summarizes the results of the HRIA of the Ixtaca Project. The complete study is divided into the following chapters:

- I. Presentation and main results.
- II. Mining concessions and the indigenous community of Tecoltemic.
- III. Business and human rights.
- IV. Methodology of the HRIA.
- V. Activities carried out.
- VI. Identification of the area of influence of the project.
- VII. Human rights baseline.
- VII. Identification of human rights impacts and management plan.

At the same time, the complete HRIA document is accompanied by the following exhibits which are not included in this summary:

1. Guiding principles of the HRIA.
2. General information about the project.
3. Indigenous peoples and communities and their right to self-determination and autonomy.
4. Social configuration, Ixtacamaxtitlan.
5. Identified environmental impacts (summary).
6. Methodology for the identification of human rights impacts.
7. Human rights indicators and methodology.
8. Toolbox (interview questions, workshops and surveys).
9. Phase I systematization.
10. Phase II systematization.
11. Phase IV systematization.
12. Survey results.
13. Evidence.
14. Right to information.
15. Management plan roadmap.
16. COVID Protocol.
17. Comments Minera Gorrion.
18. Social baseline.
19. Independence and transparency.
20. Comments of the advisory committee.

It should be noted that the complete assessment and its exhibits are available in Spanish on the web site of [Minera Gorrion](#).

This document presents in a general and synthetic manner the main results of the work carried out in the office and in the field. It was divided into four teams and involved the participation of social, legal, environmental and survey specialists. The latter were independent from the HRIA team and worked under rigorous desk and field methodologies.

Almaden Minerals Ltd. (“Almaden Minerals”) and the adoption of a Human Rights Policy.

As part of responsible business conduct, on July 28, 2021 Almaden Minerals Ltd. (“Almaden Minerals”) announced the adoption of a Human Rights Policy which applies to it and all of its subsidiaries, including Minera Gorrion which holds the Ixtaca project in Mexico.

This Policy acts as a global reference framework on the matter and is based on the adoption of principles and actions for the benefit and defense of human rights in any project developed by Almaden Minerals. Such is the case of Minera Gorrion, which must implement it in relation to the development of the Ixtaca project. Endorsing that Human Rights are the center of gravity of its values and work philosophy, which will allow continuity and strengthen the work of integration and participation in the region of Ixtacamaxtitlan.

One of the most important elements in the process of responsible business conduct and due diligence is to conduct a Human Rights Impact Assessment (HRIA) in order to perform an overall analysis of the operations and value chain and where risks may exist, identify actual and potential negative impacts. Assess the company’s involvement in actual and potential impacts (causing, contributing, directly linked) and prioritize the most significant risks based on severity and likelihood.

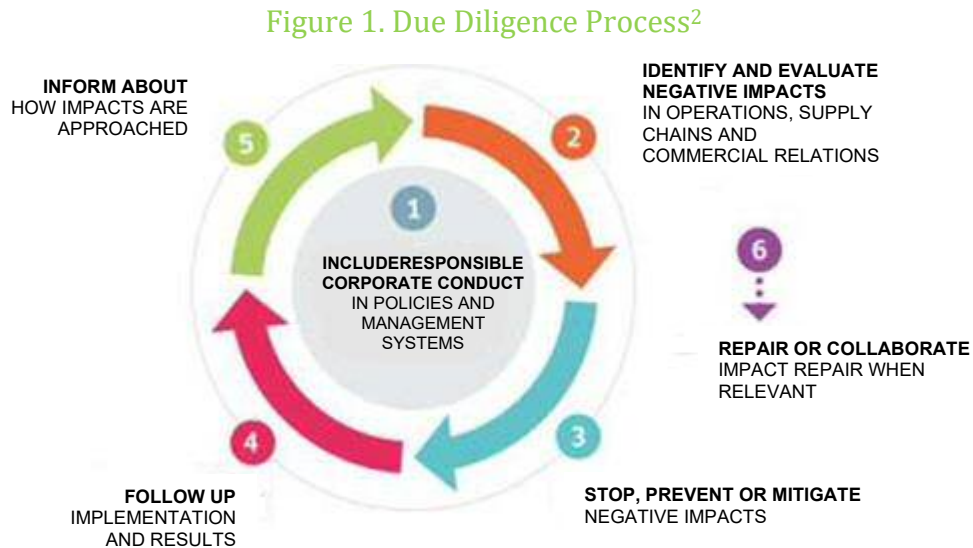
What is Due Diligence?

Due Diligence, according to “The Responsibility of Business to Respect Human Rights: Guidance for

Interpretation” (UN, 2012, p. 7), has been defined as:

(...) the measure of prudence, activity or assiduity that a prudent and reasonable [person] might reasonably be expected to exercise, and with which he or she would normally act, in a given set of circumstances; it is not measured by an absolute standard, but depends on the relative facts of the case in question”. In the context of the Guiding Principles, human rights due diligence is an ongoing management process that a prudent and reasonable business should undertake, in light of its circumstances (such as the industry in which it operates, the context in which it does business, its size and other factors) to address its responsibility to respect human rights.

Figure 1. shows what this Due Diligence process looks like:



That is, as indicated (Ibid., p. 36):

In order to identify, prevent, mitigate and respond to adverse human rights impacts of their activities, companies should conduct human rights due diligence. This process should include assessing the actual and potential human rights impact of activities, integrating findings, and acting on them; monitoring responses and communicating how adverse impacts are addressed. Human rights due diligence:

- a) It should cover adverse human rights impacts that the company has caused or contributed to through its own activities, or that are directly related to its operations, products or services provided through its business relationships;
- b) It will vary in complexity depending on the size of the company, the risk of serious adverse human rights impacts and the nature and context of its operations;
- c) It should be an ongoing process, as human rights risks may change over time, depending on the evolution of the company's operations and operational context.

Therefore, it is the responsibility of companies to identify the human rights impacts that their activities may cause in order to prevent, mitigate or compensate for them.

What is an HRIA?

As indicated above, according to Guiding Principle 18 (Ibid., p. 42), companies should undertake an assessment process to identify the human rights impacts that their activities cause or could cause. In doing so, companies should undertake a series of actions. Avoidance or prevention, mitigation and, where appropriate, remediation should be at the core of all business activities. As stated in Guiding Principle 19, there should be an “integration” process, when the results of the assessment process are available, in order to make timely decisions.

Table 3.

² Responsible Corporate Conduct (2022). Accessed July 19, 2022, <https://www.subrei.gob.cl/ejes-de-trabajo/cer/debida-diligencia>.

Guiding Principle 19

To prevent and mitigate adverse human rights impacts, companies should integrate the findings of their impact assessments into the framework of relevant internal functions and processes and take appropriate action.

a) For this integration to be effective, it is necessary to:

i) Responsibility for preventing such consequences is assigned to the appropriate levels and functions within the company;

ii) Internal decision making, budget allocations and monitoring processes enable effective responses to these impacts.

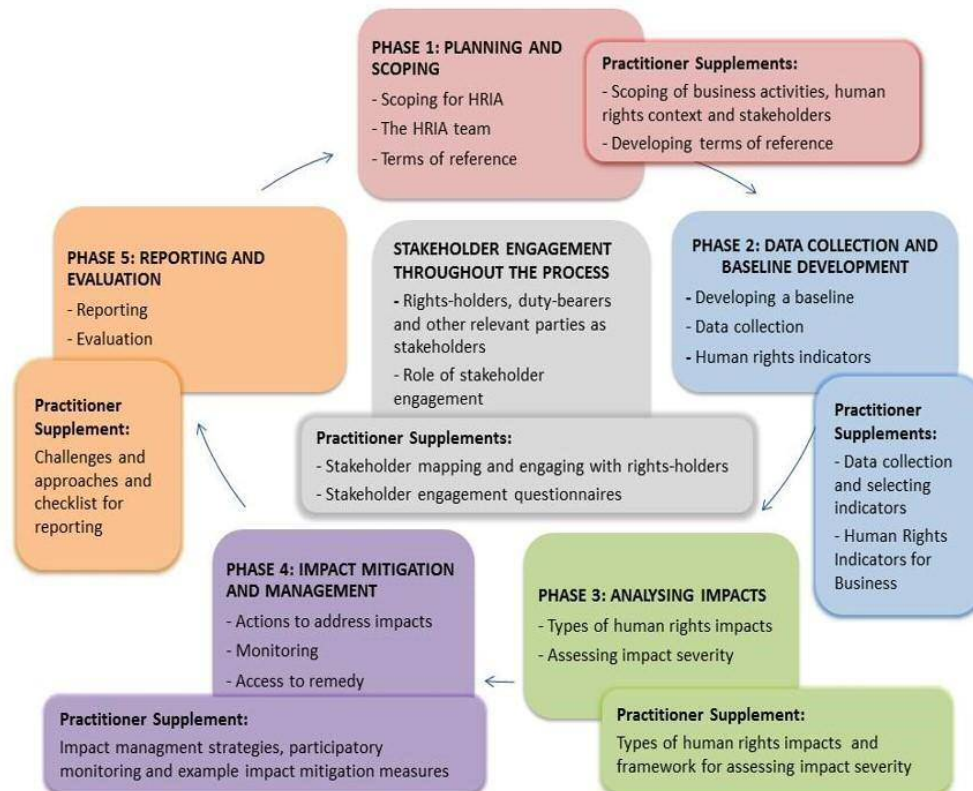
b) The measures to be taken will vary depending on:

i) That the company causes or contributes to causing the negative consequences or that its involvement is reduced to a direct relationship of these consequences with the operations, products or services provided by a business relationship;

ii) Their ability to influence to prevent negative consequences.

In this context, Almaden Minerals requested the support of an independent third party to conduct an assessment of the Mining Project to be developed in the Municipality of Ixtacamaxtitlan. Conducting an HRIA is part of the Due Diligence process shown in Figure 2, which is part of the methodology proposed by The Danish Institute for Human Rights (DIHR). In summary, it can be indicated that the Human Rights Impact Assessment process seeks to achieve the following objectives:

- Analyze and identify actual and potential impacts, which leads to an assessment of the severity of human rights impacts, and incorporate impact prevention and mitigation measures and mechanisms for remediation and reparation processes.
- Seek to have a meaningful participation of the various stakeholders (especially “subjects of rights”, “subjects of duties” and “other stakeholders”).
- Achieving the empowerment of rights holders, transparency, accountability, use of human rights standards.
- Facilitate dialogue between companies, rights holders and other relevant parties, as well as facilitate capacity building and learning for company stakeholders, rights holders and other stakeholders.
- Based on the Due Diligence guidelines and specifically on actions to prevent and mitigate human rights impacts, companies should generate collaborative links with rights holders.

Figure 2. HRIA process³

It should be noted that at the time of completing the assessment in 2022, there were social actors with whom it was not possible to have their participation in the HRIA. Nevertheless, it should be noted that every HRIA is a “continuous process”. In other words, this HRIA should have a process of monitoring, assessment and updating. Although various social actors participated, it is considered appropriate to strengthen or have open channels of communication so that in the short or medium term a dialogue between the company and these actors can be achieved. The DIHR indicates an element to consider (DIHR, 2018):

Support the establishment of participatory monitoring mechanisms to enable rights holders to continuously participate in the follow-up of the report.

Suggest regular meetings between the company and HRIA participants to discuss progress in implementing mitigation measures as well as the impact management plan.

Therefore, communication should be maintained with:

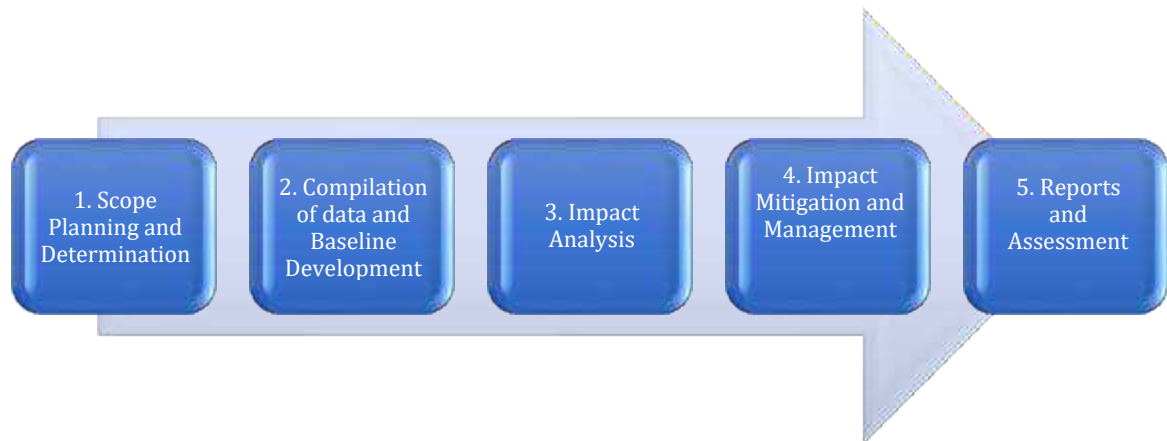
1. Rights holders and other stakeholders participating in this HRIA.
2. Rights holders and other stakeholders who could not participate in the interviews, workshops or surveys, such as inhabitants of the various communities within the area of influence, other social actors such as NGOs, CSOs, government agencies, among others.

HRIA working methodology

The proposal for the elaboration of the Human Rights Impact Assessment (HRIA) for the Ixtaca Project was based on the Human Rights Impact Assessment Guide of The Danish Institute for Human Rights (see <https://www.humanrights.dk/tools/human-rights-impact-assessment-guidance-toolbox/guia-de-evaluacion-de-impacto-en-los-derechos>). The research proposed the following phases for its development:

³ Introduction to Human Rights Impact Assessment (2022). See <https://www.humanrights.dk/tools/human-rights-impact-assessment-guidance-toolbox/guide-to-human-rights-impact-assessment-guidance-0>.

FIGURE 3. HRIA phases.⁴



It should be noted that during the fieldwork conducted in the communities within the Project's area of interest, it coincided with the development of the COVID 19 pandemic, so the necessary care was taken with personal and group meetings.

HRIA work team.

The working team that participated in the HRIA was made up of specialists in the following areas:

- Human Rights, who reviewed the existing legislation on business and human rights.
- Environmental specialists who conducted an independent investigation to identify the environmental impacts of the proposed project and to suggest measures to prevent and mitigate environmental impacts.
- Social. It should be mentioned that at the same time that interviews, workshops and surveys were being conducted, a specialized team carried out extensive desk and field work to carry out a study on environmental issues.
- Surveys were conducted by an independent organization of the HRIA consulting team, who conducted surveys within the area of interest of the HRIA.

Academic Advisory Committee.

An independent academic advisory committee was established to act as a reference group to advise and supervise the HRIA team on methodological issues and implementation of the methodology with respect to its objectives and guiding principles. The committee had the following functions:

- a) Advise on the identification of stakeholders on site.
- b) Complement the HRIA team with respect to knowledge of the national and local context on the human rights impacts of Project activities; and
- c) Provide feedback on the design and methodology of the HRIA, as well as the final report.

This advice should not be taken as a control, as it should not infringe on the independence and impartiality of the HRIA team. The external verification makes it possible to highlight that the actions implemented by the Project have fulfilled its responsibilities regarding the Project's capacity to address human rights risks and impacts in order to address them. This Committee was made up of leading specialists:

⁴ <https://www.humanrights.dk/tools/human-rights-impact-assessment-guidance-toolbox/guia-de-evaluacion-de-impacto-en-los-derechos>).

- James Anaya, a former United Nations Rapporteur on the Rights of Indigenous Peoples at the United Nations and currently a Professor at the University of Arizona. He has several publications specializing in the rights of indigenous peoples.⁵
- Maria del Carmen Carmona, Research Professor at the UNAM *Instituto de Investigaciones Jurídicas* (Legal Research Institute), and Coordinator of the Environmental Law Area. She is the author of specialized books and articles on environmental law, natural resources, energy, as well as indigenous and administrative law in general.⁶
- Sergio Puig, Research Professor at the University of Arizona. He has several books published, including *International Indigenous Economic Law*, 52 U.C. DAVIS L. REV. 1243 (2019).⁷
- Katya Puga. Former General Director of Social Impact and Surface Occupation of the Ministry of Energy (SENER), former Undersecretary of Planning and Environmental Policy of SEMARNAT and currently Consultant in Sustainability, Human Rights, Citizen Participation & Impact Assessment.

As already indicated, the Advisory Committee assisted the consulting team on methodological issues of the HRIA. The following paragraphs indicate some of the comments made by the Committee. (See **Exhibit 20** of the complete HRIA document):

(...)

In general, the Committee considers that the HRIA has been carried out in accordance with sound procedures, based on international standards and good practices, as well as with professionalism, seriousness and good faith.

The HRIA adequately reflects the feedback that Committee members provided both in the preliminary comments of August 2022 (Exhibit 1), as well as in the various meetings held throughout the process-between November 2021 and December 2022-in which Committee members, company representatives and the consulting team participated (attached as Exhibit 2 is a summary of comments) as well as the final comments to the HRIA circulated by the Committee on December 1, 2022 (attached as Exhibit 3).

Consolidation of HRIA prevention and mitigation measures and other aspects:

We reiterate our comment that the assessment process should continue as new acts of authority, measures, facts or other events occur that update or clarify the potential impacts of the Ixtaca Project, including a redefinition of the technologies and type of project that may be decided to be applied to develop the project.

Due diligence and the dissemination of the HRIA to communities:

The Committee reiterates that the Company should continue its efforts to communicate the results of the HRIA to rights holders and stakeholders, as part of the due diligence that the Company should exercise as an ongoing process to prevent its operations from violating human rights. The company has the responsibility to respect human rights at all times in its operations. This responsibility is independent of the Mexican State's obligation to guarantee human rights in the context of business activities.

Likewise, the Company should inform the different authorities about the development of the HRIA, its results and future processes for monitoring and follow-up. In particular, the Company should report on the free, prior and informed consultation procedures that must be held as a result of the Supreme Court's ruling in Amparo under Review 134/2021-in the understanding that it is the government's responsibility, not the company's, to carry out the consultations ordered by the Supreme Court. We also insist on the importance of the company continuing to proactively cooperate with the authority or authorities responsible for carrying out the Indigenous consultation(s) in the relevant legal spheres and remedy any negative impacts resulting from its operations.

(...)

Community committee.

One of the issues that arose during the HRIA planning process was the participation of the inhabitants of the communities of interest. In the first stages of visits to the communities, people were identified who had knowledge about issues related to political, social, cultural, territorial and natural resource use. The research team that conducted the HRIA invited three people from the communities of Almeya, Santa Maria Z., and Zacatepec to form a "Community Committee", whose participation was limited:

⁵ See <https://lawweb.colorado.edu/profiles/profile.jsp?id=729>

⁶ <https://www.juridicas.unam.mx/investigador/perfil/mcarmona>

⁷ <https://lawweb.colorado.edu/profiles/profile.jsp?id=729>

1. To support the identification of the social, cultural and political context of the area of interest of the HRIA.
2. To recommend tools to be implemented in the field, interviews, workshops and surveys.
3. To assist the “Academic Advisory Committee” with a face-to-face working meeting.

At no time can these people be considered as “representatives” of the communities, since, as indicated above, their participation, in their personal capacity, was limited to supporting the consulting team with their experience and knowledge of the territory of the peoples and communities.

Activities carried out.

Several participatory tools were designed and implemented. The following tables show the number of people who participated in the interviews, workshops and surveys. The following was considered in all interactions:

1. Respect for the confidentiality of the participants. In both the HRIA and the various exhibits that comprise it, precautions were taken not to publish personal information, names or faces of individuals. People were told at all times that they could participate freely.
2. That the participants could express themselves freely, and that the information would be considered without modification.

From the interviews.

Table 4 shows the number of people interviewed and the communities from which they were interviewed during Phase I:

Table 4.						
Interviews conducted in Phase I.						
Community	First contact and interviews					
	Total Adults	Women	Men	Total Children	Girls	Boys
Santa Maria	9	3	6	14	8	6
Zacatepec	14	4	10	6	3	3
Ixtacamaxtitlan	7	2	5	14	8	6
Ahuateno	3	2	1	0	0	0
El Encanto	3	1	2	0	0	0
La Vega	5	2	3	0	0	0
Loma Larga	9	2	7	0	0	0
Almeya	13	7	6	0	0	0
Almonamique	2	1	1	0	0	0

It should be noted that the authorities of each of the communities were sought. These are the Justice of the Peace, the Surveillance Inspector and religious authorities, such as mayordomos. In some cases their participation was counted on in a first talk, but there were cases where the community authorities excused themselves from participating in the HRIA. The results of this phase can be found in **Exhibit 9** of the complete HRIA document.

For Phase II, the tools that were applied on site can be reviewed in **Exhibit 8** of the complete HRIA document. It should be noted that these were based on the proposal made by the DIHR. On the one hand, 23 people were interviewed. Table 5 provides indicators for this phase:

Table 5.

Number of people interviewed Phase II			
Community	Date	Men	Women
Santa Maria	09/03/2022	1	0
Santa Maria	09/03/2022	0	1
Santa Maria	09/03/2022	1	0
Santa Maria	09/03/2022	0	1
Ixtacamaxtitlan	09/03/2022	0	1
Ixtacamaxtitlan	09/03/2022	1	1
Ahuateno	10/03/2022	1	2
Ixtacamaxtitlan	10/03/2022	1	2
Santa Maria	11/03/2022	1	1
Zacatepec	12/03/2022	0	1
Santa Maria	12/03/2022	1	0
Ixtacamaxtitlan	12/03/2022	0	1
Zacatepec	13/03/2022	1	1
Ixtacamaxtitlan	13/03/2022	1	0
Santa Maria	13/03/2022	2	0
Total respondents		11	12

Nine employees of Minera Gorrion were interviewed.

Workshops

The results of the workshops can be found in **Exhibit 10** of the complete HRIA document; **Exhibit 4** of the complete HRIA document includes the results of the workshops as a fundamental part of the social configuration of the communities and **Exhibit 13** of the complete HRIA document presents photographic evidence of their participation. Table 6 shows the sites and number of participants in these activities:

Table 6. Number of people participating in workshops, Phase II				
Community	Date	Headquarters	Number of attendees	
			Adults	Children
Santa Maria	09/03/2022	Justice of the Peace	6	0
Ahuateno	10/03/2022	Home address	4	0
Santa Maria	10/03/2022	Justice of the Peace	7	0
Santa Maria	10/03/2022	Justice of the Peace	19	0
El Encanto	11/03/2022	Home address	4	0
Almeya	11/03/2022	Home address	12	10
Loma Larga	11/03/2022	Home address	7	0
Cruz de Ocote	12/03/2022	Home address	6	0
Ixtacamaxtitlan	12/01/2022	Hotel San Francisco	17	6
Zacatepec	12/01/2022	Home address	4	0
Santa Maria	12/01/2022	Home address	9	3
Santa Maria	13/03/2022	Justice of the Peace	5	0
Ixtacamaxtitlan	13/03/2022	Home address	7	0
Ixtacamaxtitlan	13/03/2022	Home address	18	0
Santa Maria	03/05/2022	Justice of the Peace	4	0
Zacatepec	02/05/2022	Home address	4	0
La Vega	01/05/2022	Home address	5	0
Total number of attendees			138	19

Surveys

The following table shows the number of people who participated in the surveys and their place of residence.

Table 7. Number of respondents by place of residence		
Community	Frequency	Percentage
Ixtacamaxtitlan	167	37.2
Santa Maria Zotoltepec	131	29.2
Almeya	30	6.7
Zacatepec	98	21.8
Loma Larga	6	1.3
La Vega	11	2.4
Cruz de Ocote	6	1.3
Total	449	100.0

Return of results: Phase IV

The following table shows the number of people who participated in the Preliminary Results Return Phase, indicating the place where the meetings were held.

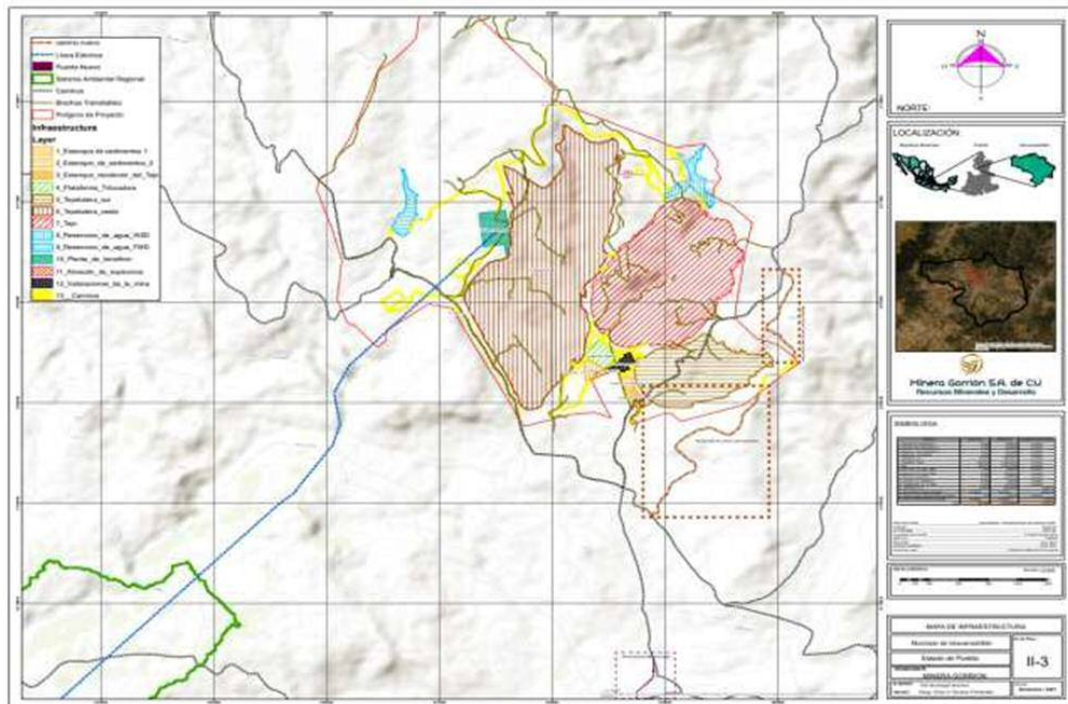
Table 8. Number of people participating in workshops, Phase IV			
Community	Date	Place where it was held	Attendees (adults)
Almeya	13/07/2022	Home address	13
Santa Maria Z.	14/07/2022	Justice of the Peace	9
Santa Maria Z.	15/07/2022	Justice of the Peace	19
Zacatepec	15/07/2022	Home address	6
Ahuateno	15/07/2022	Home address	5
Ixtacamaxtitlan	15/07/2022	Home address	8
Ixtacamaxtitlan	16/07/2022	Home address	10
Ixtacamaxtitlan	17/07/2022	Home address	11
El Encanto	17/07/2022	Home address	2
La Vega	17/07/2022	Home address	6
Loma Larga	20/07/2022	Home address	6
Santa Maria	20/07/2022	Home address	8
Zacatepec	21/07/2022	Home address	4

WHAT IS THE IXTACA PROJECT?

What does the HRIA assess?

The purpose of the “Ixtaca Project” is to exploit an epithermal deposit⁸ of minerals with gold and silver content, through the development of an open pit with a surface area, at the end of its useful life (estimated 12 years), of 133.68 hectares (ha); as well as the mineral extraction of the extracted material through milling, gravimetric concentration, flotation, leaching and electrowinning to obtain doré bars (gold and silver alloy containing minor impurities), two waste rock sites, one of which will be used for the co-disposal of waste rock with filtered tailings and two rainwater reservoirs (FWD and WSD). The FWD reservoir has an estimated capacity of 300,000 cubic meters (m³) to supply the mining activity and the WSD has a capacity of 1.8 million cubic meters (Mm³) to supply the communities and the mining activity in case of severe drought conditions and the volume to be used will be conditioned to the same circumstances. In total, the Project requires an area of 1,044.02 ha, of which 466.00 ha will be occupied by infrastructure and the remaining 578.02 ha will be used for conservation and protection of existing natural resources, as well as natural resource restoration activities (see figure 4). According to the North American Industrial Classification System 2013 (SCIAN 2013)⁹, the Ixtaca Project is catalogued under the nomenclature 21222 Gold and silver mining, which includes economic units dedicated mainly to the exploitation of minerals estimated mainly for their gold or silver content, as well as tellurium, *claverita* and sylvinita, and to mineral extraction activities, such as crushing, screening, flotation and leaching, aimed at obtaining concentrates and precipitates.

Figure 4. Works or Facilities required for the Ixtaca Project



Source: MIA, 2022.

The Project Area is located in the northern portion of the municipality of Ixtacamaxtitlan, State of Puebla. It is 7 km northwest of the municipal capital, 80 km north of the state capital and 130 km east of Mexico City.

The Ixtaca Project can be accessed through Highway 119 in the Apizaco-Tlaxco section, to take the

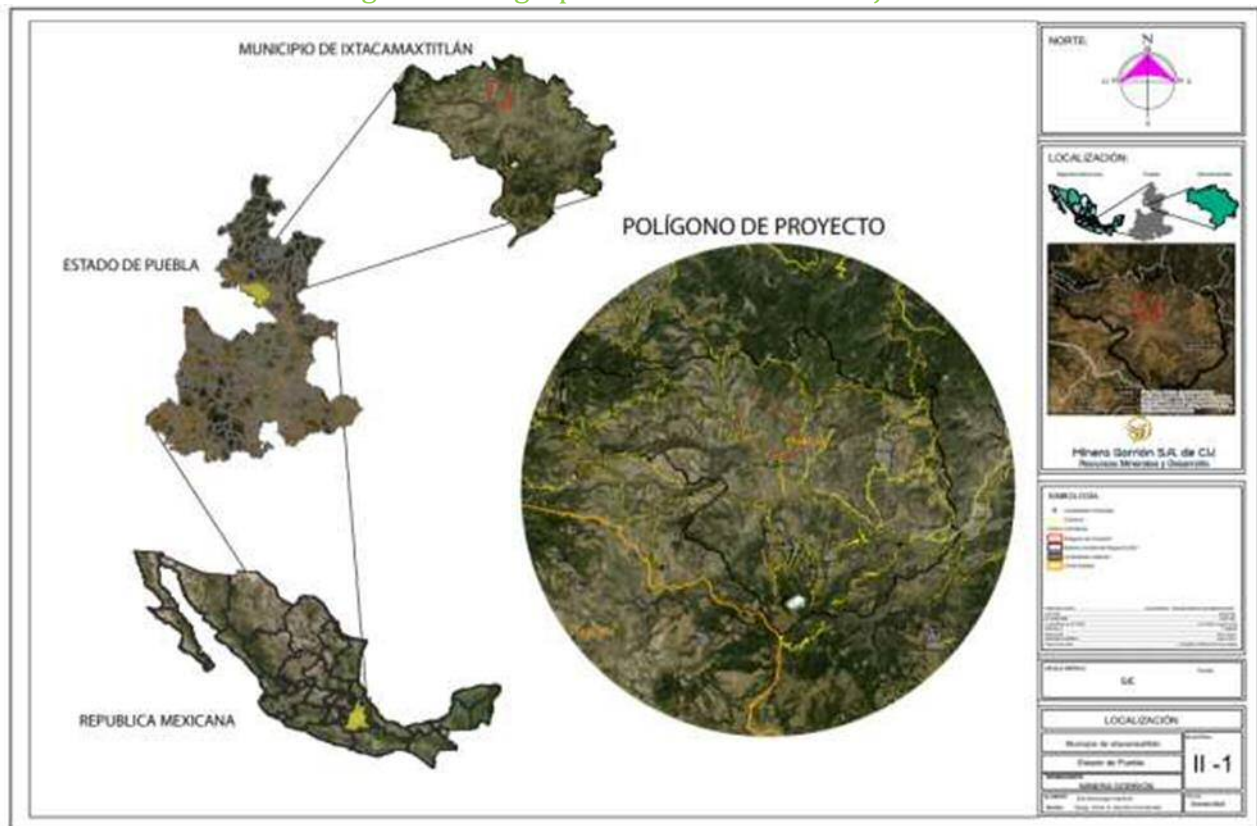
⁸ Feasibility Study of the Ixtaca Gold-Silver Project in the State of Puebla, Mexico, 8.1.1 The epithermal system of the Ixtaca zone.

⁹ INEGI, 2013. North American Classification System, Mexico SCIAN 2013. National Institute of Statistics, Geography and Informatics. Aguascalientes, Mexico. 588p. Accessed October 10, 2017, available at:

http://www.inegi.org.mx/est/contenidos/proyectos/scian/presentacion.aspx?_file=/est/contenidos/proyectos/SCIAN/doc/scian2013.pdf.

eastbound detour to Cd. Industrial Xicotécatl. Afterwards, continue northeast towards Lazaro Cardenas and continue towards Ixtacamaxtitlan, to finally turn north towards Santa Maria Zotoltepec. Public dirt roads currently cross the proposed mining areas.

Figure 5. Geographic location of the Project.



Source: MIA, 2022.

What is the area of study of the HRIA?

Taking into consideration the stage and specific characteristics of the Project, in its exploitation stage, it was considered that in order to define the scope of the Human Rights Impact Assessment of the Ixtaca Project, the areas of influence are delimited: core, direct and indirect from a social point of view, to define the communities that are part of the study universe, since these are the ones that will be directly or indirectly affected by the development of the Project.

In this order of ideas, the area of influence of a Project is the physical space that is likely to be impacted by the development of the Project during all its stages, including in the medium and long term; three areas of influence were established (SENER, 2018, art. 5, frac. II), which are:

1. Core Area.
2. Area of Direct Influence.
3. Area of Indirect Influence.

For the delimitation of the area of influence of the Project, environmental impact criteria, degree of impact during the Project development stages (site preparation; construction; operation and maintenance; cessation and abandonment), social, cultural and heritage impact criteria were considered.

Likewise, the constituent elements of the Project, its technical characteristics, the areas of affectation and its interaction with territorial and/or administrative units, agrarian nuclei and private property,

human settlements and/or localities, tangible or intangible cultural heritage, road traffic patterns, economic activity and acquisition of goods and services, Mexican Official Standards linked to the project, changes in the environmental and landscape scenario are also considered (SENER, 2018, chap. III).

In this same order of ideas, considering what is established by the International Association for Impact Assessment (IAIA), in its document entitled “Guidelines for the assessment and management of social impacts of projects”, it establishes that the area of influence,

consists of the people who will be potentially affected by the impact of a project. Affected people include both “communities of place” and “communities of interest”. The location of affected people often does not align with the geographic boundaries or zone of influence determined by a project’s environmental impact.... The definition of a “social area of influence” does not necessarily require the articulation of a geographic boundary. Instead, the social scope of the project can be determined through a combination of stakeholder analysis and social mapping, and through an iterative process of understanding the economic, political and environmental changes induced by the project, and the livelihoods and networks of people who are potentially affected. (IAIA, 2015).

Therefore, the area of influence of the Project cannot only be a criterion of distance (meters or kilometers), since the social issue implies considering elements that may allow the identification of impacts on a given society with forms of organization, territory and government. Under these criteria, the following areas of influence are defined for this Project.

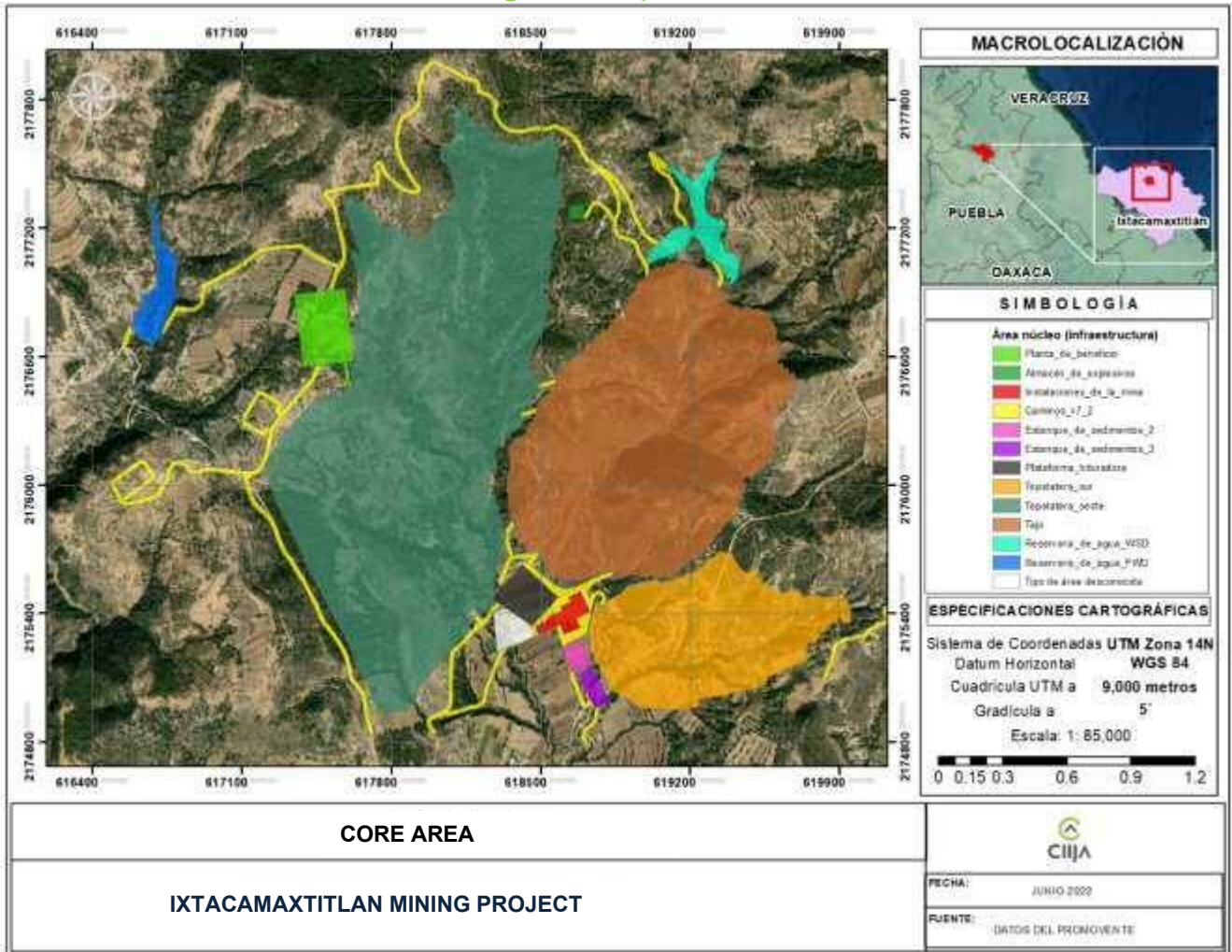
1. **Core Area.** The core area of the Project is defined by the Project’s polygon with a total surface of 1,044.02 ha, of which 466 ha will be occupied for the construction of works and facilities required for the Project, which represents 44.64% of the total surface. The following table shows the projected works or facilities, as well as the area required for each one of them.

Table 9.				
Surfaces required by the Project				
ID	Work	Surface		% with respect to PA
		m²	ha	
1	Sediment pond 1	24,281.07	2.43	0.23
2	Sediment pond 2	12,029.6	1.20	0.12
3	Collecting Pond	13,779.1	1.38	0.13
4	Crushing platform	46,435.16	4.64	0.44
5	South Mining Waste Site	558,255.91	55.83	5.35
6	West Mining Waste Site	210,6379.11	210.64	20.18
7	Open Pit	1,336,778.09	133.68	12.80
8	Water reservoir WSD	73,804.1	7.38	0.71
9	Water reservoir FWD	58,248.27	5.82	0.56
10	Processing plant	83,990.86	8.40	0.80
11	Explosives warehouse	3,900	0.39	0.04
12	Mine facilities	22,132.97	2.21	0.21
13	Roads	319,970.38	32.00	3.06
	Subtotal area required by facilities	4,659,984.62	466.00	44.64
	Area reserved to carry out activities of Conservation and Restoration of Natural Resources.	5,780,215.38	578.02	55.36
	Project Area (PA)	10,440,200.00	1,044.02	100.00

Source: Promoter’s data

The following figure shows the core area of the Project, as well as its constituent elements.

Figure 6. Project core area



Source: Own elaboration with data from the Promoter and INEGI, 2020.

2. The area of direct influence is defined, taking into consideration the interaction between the three elements considered, by the following localities and ejidos listed in the following tables:

Table 10.
Localities in the area of direct influence.

Name of municipality or territorial demarcation	Locality code	Name of locality	Total population
Ixtacamaxtitlan	0001	Ixtacamaxtitlan	391
Ixtacamaxtitlan	0018	Loma Larga	83
Ixtacamaxtitlan	0029	Santa Maria Zotoltepec	478
Ixtacamaxtitlan	0089	Zacatepec	285
Ixtacamaxtitlan	0148	Ixtacamaxtitlan	76
Ixtacamaxtitlan	0149	Ixtacamaxtitlan	48

Source: INEGI, 2020.

As well as the ejido Santa Maria Zotoltepec.

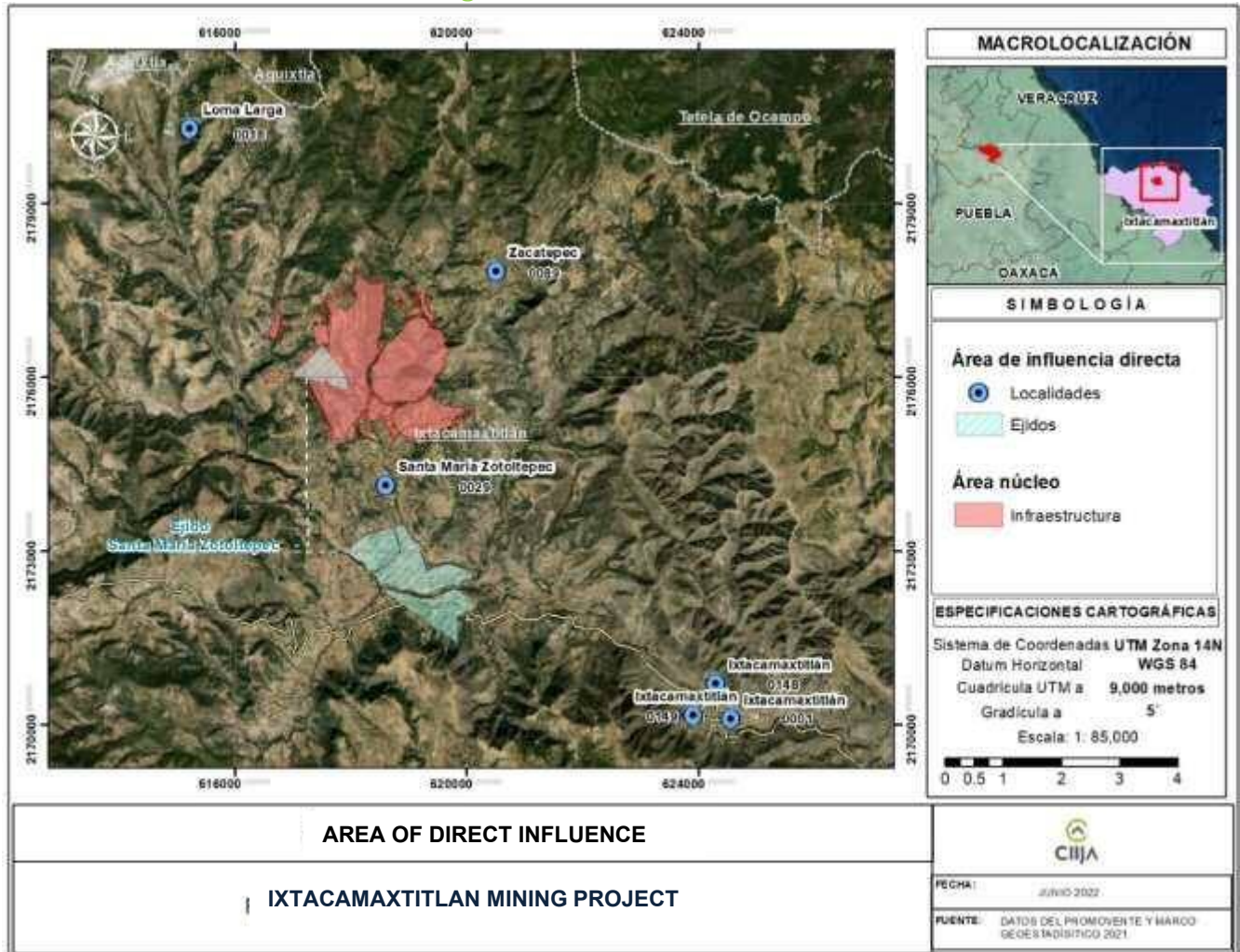
Table 11.
Ejidos in the area of direct influence.

Ejido	Unique code	Ejido Owners	Neighbors
Santa Maria Zotoltepec	2114109622122500	46	0

Source: RAN, 2022.

The following figure shows the area of direct influence of the Project.

Figure 7. Area of direct influence.



Source: Own elaboration with data from the Promoter and INEGI, 2020 and RAN, 2022.

3. The area of indirect influence is defined by the following localities and ejidos listed in the following tables:

Table 12. Communities in the area of indirect influence.			
Name of municipality or territorial demarcation	Locality code	Name of locality	Total population
Ixtacamaxtitlan	0062	Almeya	208
Ixtacamaxtitlan	0063	Almonamique	54
Ixtacamaxtitlan	0125	La Vega	58
Ixtacamaxtitlan	0003	Ahuateno	196
Ixtacamaxtitlan	0081	El Encanto	50

Source: INEGI, 2020

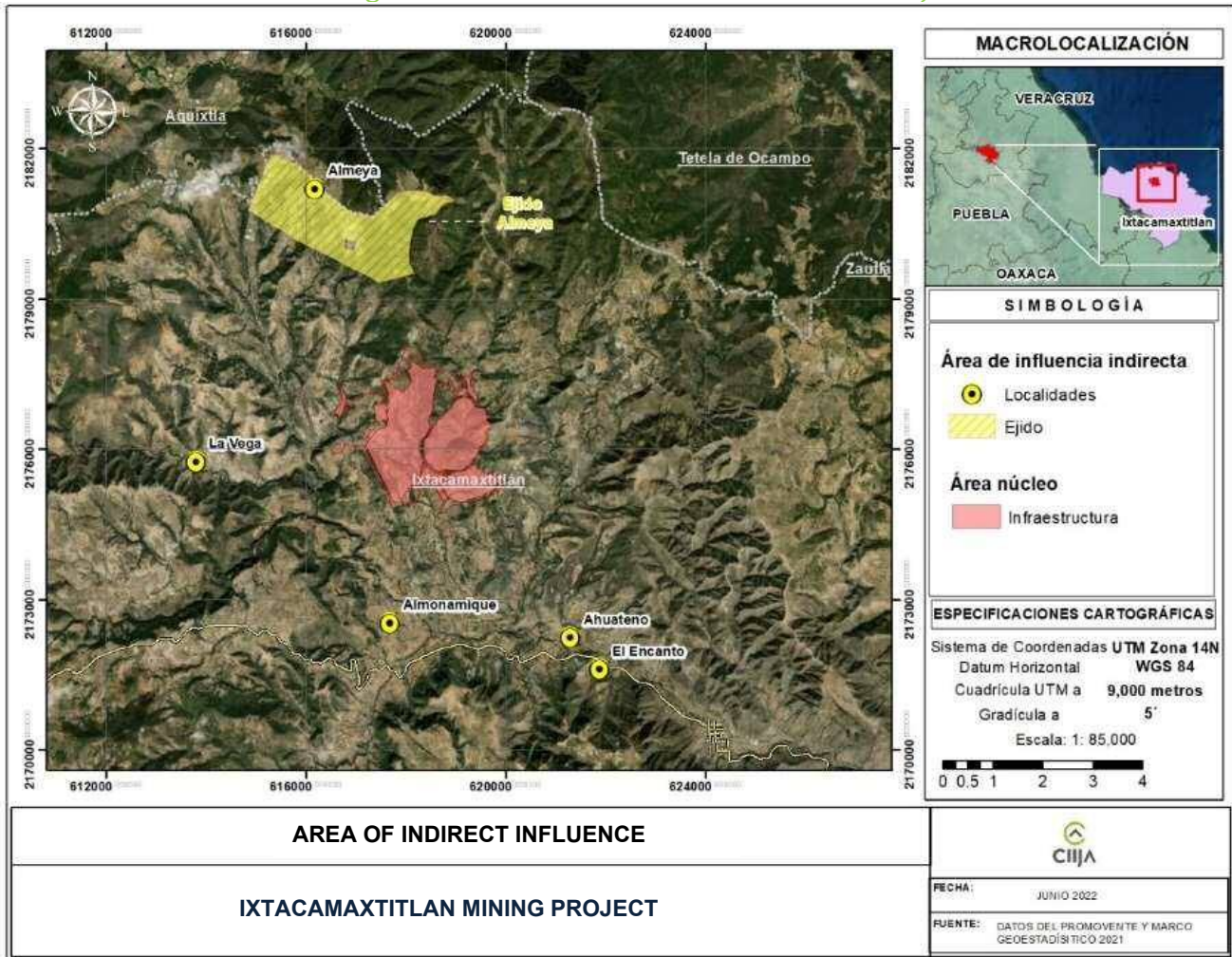
As well as the Almeya ejido:

Table 13. Ejidos in the area of indirect influence.			
Ejido	Unique code	Ejido Owners	Neighbors
Almeya	2114109622122110	56	44

Source: RAN, 2022

The following figure shows the area of indirect influence of the Project.

Figure 8. Area of indirect influence of the Project.



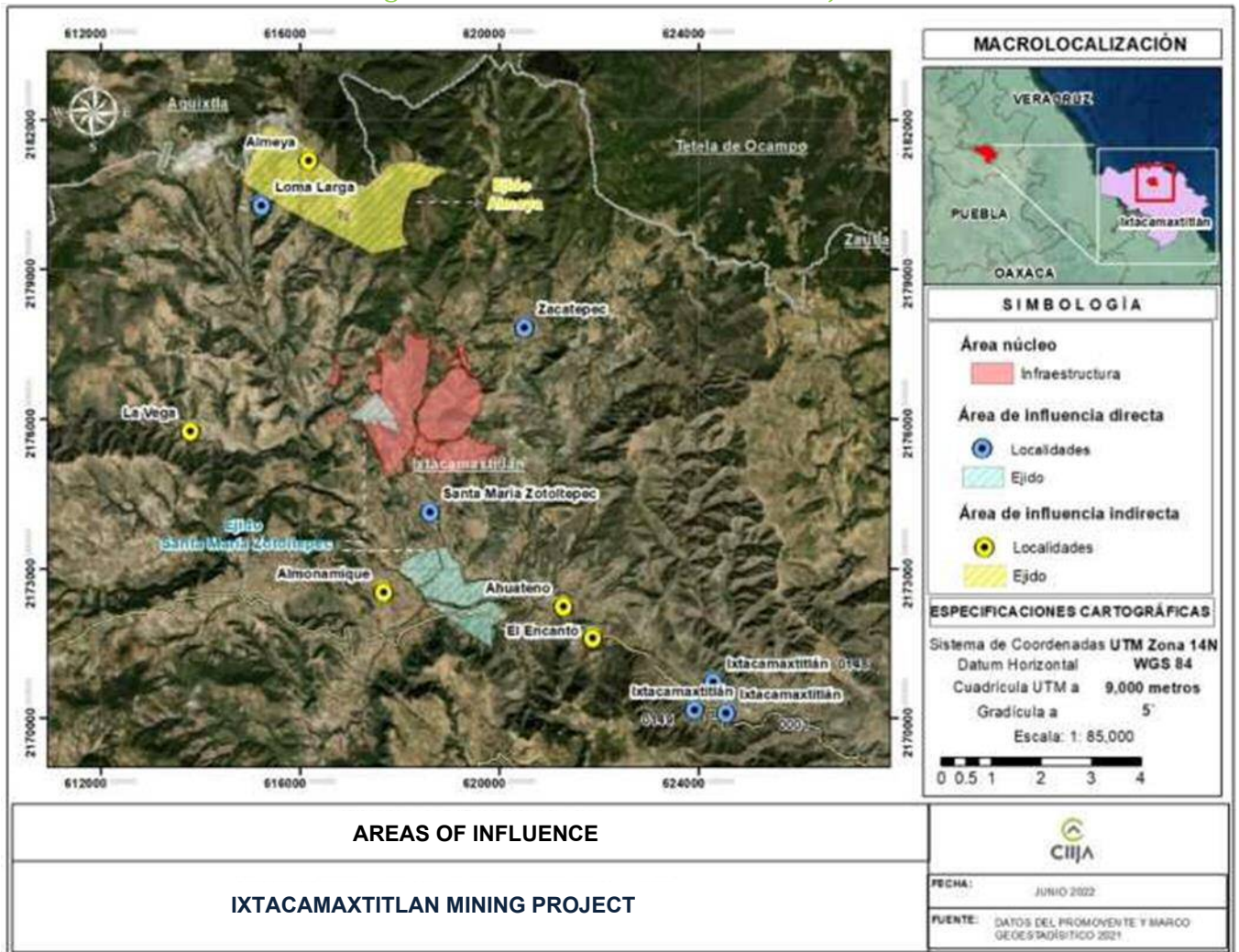
Source: Own elaboration with data from the Promoter and INEGI, 2020 and RAN, 2022.

Impacts related to the Ixtaca Project, as currently envisioned, could mostly affect the communities in the area of direct influence, which includes the communities of Santa María Zotoltepec, Ixtacamaxtitlan, Loma Larga, Zacatepec and the ejido Santa María Zotoltepec.

The Tecoltemic community is located approximately eight kilometers east of the core area (where the Ixtaca Project will be developed). Although it is not considered within the Project's area of influence, it is an interested party, since the Ministry of Economy must develop the human right to indigenous consultation with the Tecoltemic Indigenous Community regarding the granting of mining concessions that have been requested by MG and are pending resolution (for more information see Chapter II of the HRIA). Therefore, their participation was sought for the development of the Assessment.

Similarly, the following image shows the areas of influence: core, direct and indirect, integrated in the same figure for comprehensive observation, which together are called the area of influence of the Project.

Figure 9. Areas of influence of the Project.



Source: Own elaboration with data from the Promoter and INEGI, 2020 and RAN, 2022.

MAIN RESULTS OF THE HRIA

Result 1: Social configuration.

As part of the Human Rights Impact Assessment (HRIA), the characterization of the localities (communities) that were part of the study was carried out: Santa Maria Zotoltepec, Zacatepec, Ahuateno, Ixtacamaxtitlan (municipal seat), Loma Larga, La Vega, Almeya and El Encanto, all belonging to the municipality of Ixtacamaxtitlan, Puebla. Although the general features of the municipality are shown in Figure 10, the characterization of each community was recorded independently based on four central elements: **a)** socio-cultural configuration, **b)** land, territory and natural resources, based on the use of maps of the territory, **c)** social problems identified, **d)** identification of stakeholders: Rights Holders, Duty Holders, and Other Stakeholders.

Figure 10.

<p>General features of the municipality of Ixtacamaxtitlan</p>	<p>➤ LOCATION AND NATURAL RESOURCES</p> <ul style="list-style-type: none"> • It is located in the Sierra Norte of Puebla. • It is characterized by its mountainous relief and the passage of the Apulco River. • Due to the deforestation process, there are scattered forest areas. • In the territory there are metallic minerals such as copper (Cu), gold (Au) and silver (Ag).
	<p>➤ HISTORICAL CONTEXT:</p> <ul style="list-style-type: none"> • Paleontological remains and archaeological pieces have been found. • Cerro Acolhua is located next to the municipal seat and was a point of pre-Hispanic ceremonial importance. • In later years, the hacienda system gained importance, with the Almonamique hacienda standing out. • The agrarian distribution under the ejido regime was carried out in the area based on the lands acquired by the haciendas in the municipality.



General features of the municipality of Ixtacamaxtitlan

- **REGULATORY SYSTEM:**
 - It is linked to the municipal system, which is governed by a town council with a *Presidente Municipal* (Town Mayor) as the political-administrative figure who, in turn, is supported by the Justices of the Peace as auxiliary authorities.
 - In agrarian matters, there are Ejidal Commissariats (*Comisariados Ejidales*).
 - In addition, the communities form committees in the areas of education, health, church, public works, among others.
- **TYPES OF AGRICULTURAL PROPERTY:**
 - Private properties predominate and, to a lesser extent, there are agrarian nuclei under the ejido regime.
- **TRADITIONAL ECONOMIC ACTIVITIES:**
 - The most important activities are agriculture, livestock and forestry.
- **OTHER SOURCES OF EMPLOYMENT:**
 - Mining, manufacturing and construction, as well as trade, administrative and tourism services.













Common issues

- **ENVIRONMENT:**
 - The Apulco River is increasingly polluted and its use for agricultural irrigation has undermined crop quality. Part of the water pollution comes from the drains that flow upstream into the river. As a result, social recreational use is practically non-existent.
- **SOCIAL:**
 - The presence of actors outside the communities has been identified who seek to influence the position of the inhabitants towards the mining project. Currently the communities are divided between those who expect the project to be implemented and those who refuse it, arguing that it will damage health, the environment and the territory.
- **ECONOMIC:**
 - There are few sources of employment, so the population tends to migrate, sometimes permanently; as a result, traditional production activities have been reduced in some communities of the municipality.
 - There is a lack of interest in traditional economic activities on the part of the young population, especially among those who have an academic education or are employed in neighboring municipalities.















The above elements represent the general features of the municipality. The identification of the specific characteristics that each community registers in relation to its territory, and which is presented below, was based on the application of different tools in the field, among them observation, photographic registry, informal talks, interviews, surveys and workshops; the latter had the following objective: To identify the symbolic and material uses of the territory, through a collective mapping exercise, in order to have a social cartography of the area of interest. The following maps are the product of this exercise, the symbology used in the maps elaborated by the groups that participated in the workshops is the following:

Figure 11.
Symbology in maps

	Water resources: springs, water wells, water boxes, water cisterns
	Water resources: rivers
	Community buildings, health center, schools, peace court
	Symbolic spaces: Churches, cemeteries, other places where rituals are performed.
	Recreational areas: sports fields, auditorium, bullfighting arena, others
	Farmland
	Irrigated Lands - <i>Sembrando Vida</i> (Sowing Life) Program
	Dirt roads
	Main roads
	Approximate project location

It is important to emphasize that the map provided by the company, corresponding to the different works considered by the Project, could only be worked with the communities of Santa Maria Zotoltepec and Ahuateno, since, due to their proximity to the Project, their respective population centers appear on the map, as opposed to the more distant communities. In this case, the identification of the social, economic and cultural elements was carried out with the following symbology:

Figure 12. Symbology

	Dams
	Water wells
	Springs
	Water boxes
	Rivers, supply network
	Intermittent currents
	Urban area of the community
	Escamoles harvesting area
	Approximate community boundaries
	Symbolic spaces: churches, pantheons, others of a religious nature
	Livestock grazing
	Farmland
	<i>Sembrando Vida</i> (Sowing Life) Program
	Irrigated land

It is important to add that in the communities of Ixtacamaxtitlan and Loma Larga, it was also possible to work with groups of children under 18 years of age to identify the elements of the territory with which they are most closely related; at the same time, we talked with them about the rights of girls and boys.

Result of the workshops.

The following figures summarize the results of the work carried out by communities:

SANTA MARIA ZOTOLTEPEC MAP OF THE TERRITORY URBAN AREA AND MAIN ROADS

- This community is the closest to the Project, and is along the access route to other communities and to municipal capitals of local commercial importance such as Chignahuapan, Tetela or Ixtacamaxtitlan.
- Common use spaces are located in the urban area: schools, courthouse, clinic, sports fields, church, etc.
- Water resources include the Apulco, Jaleneque and Plumajes rivers.
- Among the elements of symbolic importance for the inhabitants are the church and the cemetery.
- Although pilgrimages from other communities have sporadically come to Santa Maria, the routes they use in this area are the main roads and not the mountains.
- As shown, agricultural and livestock activities are carried out around the population center.



SANTA MARIA ZOTOLTEPEC LAND USE AND PROJECT LOCATION

- The boundaries of Santa Maria Zotoltepec are bordered by the communities of Zacatepec to the northeast, Almonamique to the southwest, Ahuateno to the east, and Ixtacamaxtitlan to the southeast.
- According to the identification of water sources, carried out by those who participated in the workshop, there are three springs for private use and two dams in the project area. To the southwest of the project is the water supply network, which hosts a water box located to the northwest of the community. In addition to the above, during the rainy season an intermittent stream flows through the community's territory, passing through one side of the urban area and through an area with scattered houses.
- In a portion of the project area, located in the north of the community, there are two areas where escamoles are collected. They are part of the diet of the inhabitants of this community and, in some cases, people collect and sell them which generates monetary income during certain periods (between March and May).



WORKSHOPS HELD IN SANTA MARIA ZOTOLTEPEC PHOTOGRAPHIC RECORD



AHUATENO MAP OF THE TERRITORY URBAN AREA AND MAIN ROADS

- The community is in direct proximity to the Project
- Although it is a dispersed settlement, the spaces for common use are located in the urban area: schools, courthouse, clinic, sports fields, church, etc.
- Drinking water is supplied by small springs. Other water sources are small water tanks (jagueyes) that the inhabitants themselves design, as these are spaces that do not use much technology and are usually temporary, as the water they collect dries up in a short time because it is directly on the ground.
- In addition to carrying out the patronal feast inside the Catholic church, on May 3 ("*Día de la Santa Cruz*") a celebration is held at a spring located on the outskirts of the community.



AHUATENO LAND USE AND PROJECT LOCATION

- Ahuateno is located to the northwest of the municipal seat, and to the southeast of Santa Maria Zoltepec, in this case, there is a road that crosses the interior of the community and leads to these two localities; the territory currently occupied by Ahuateno is adjacent to El Encanto, to the south, and to Xiuquenta to the north. It is a dispersed settlement that is in direct proximity to the Project.
- The land located in this area is used for irrigated agriculture, including traditional crops (corn, beans and squash) and crops under the Sembrando Vida Program.
- Ahuateno is one of the communities that collect escamoles in the area where the Project will be located.



AHUATENO



- Although its inhabitants do not have an exact date of its foundation, it is known that the territory they currently occupy belonged to a hacienda whose lands were divided among three families. Originally the community of El Encanto was part of Ahuateno, however, due to internal conflicts, it chose to separate and have its own administration and representative authorities.
- Each family carries out agricultural activities for self-consumption, mainly planting corn, beans, chili and squash. The families also keep backyard animals, including chickens, goats and pigs.
- An additional activity, subject to the annual season, is the collection of escamoles (between April and May) and chinicuiles (between September and October), used to diversify the family diet and to sell to intermediaries, which provides them with temporary monetary income.

WORKSHOPS HELD IN AHUATENO PHOTOGRAPHIC RECORD



ZACATEPEC MAP OF THE TERRITORY

- Zacatepec is located to the north of the municipal capital of Ixtacamaxtillan and is one of the towns that is in direct proximity to the Project. Access to Zacatepec passes through Santa Maria Zotoltepec, coinciding in a small portion with the access road to the Project area. It is worth mentioning that Zacatepec has roads to the towns of Tenzoncuahuigtic (to the east) and Cruz de Ocote (to the north).
- The hills closest to the population center are known locally as El Chiquero and Miquisachio (Miquisochio, adjacent to Cruz de Ocote); to the south of the community, towards Santa Maria Zotoltepec, there are three more hills, one of which is Cerro del Caolin (also known as "El Uno") where the Project is located.
- The water sources that supply the community are the Huichichinta River, a spring located in Cerro Miquisachio (Miquisochio) and a spring located in Tuligtic.
- Agricultural production is concentrated in corn, beans, oats and lima beans, and there are also fruit trees.



ZACATEPEC



Zacatepec is approximately 30 years old; it is a split from Tuligtic due to internal conflicts. The population nucleus is located to the southwest of the latter community; currently each one has its own equipment and its own representation figures.

The community is organized on the basis of educational and health boards. In addition, there is an Irrigation Committee, legally constituted as a Civil Association (A.C.); within the community it is a figure that works in coordination with the Justice of the Peace and the Inspector.



WORKSHOPS HELD IN ZACATEPEC PHOTOGRAPHIC RECORD



IXTACAMAXTITLAN MAP OF THE TERRITORY

- Being the municipal capital, Ixtacamaxtitlan centralizes most of the services used by the towns under its jurisdiction: administrative (city hall), comprehensive hospital, schools, health services, recreational sports facilities such as the main square, the bullring and the auditorium that represents the meeting point for the delivery of social support, school festivities, and the regional museum.
- One of the most representative hills is the one known as Colhua (Acolhua), which has a symbolic connotation for having been part of an ancient kingdom and still has spaces that evidence that condition. Around this hill there are myths and stories that keep giving meaning as part of the community's cultural patrimony
- Drinking water, as indicated, is obtained from sites located in La Vega and Ahuateno.



Additionally, water from the Apulco River is used exclusively for irrigation and drinking water for the animals (cattle); the use of the water contained in this river is carried out only by those who have land for planting on its banks.

IXTACAMAXTITLAN



The site currently occupied by the municipal seat was occupied by groups of hunters and gatherers approximately 10,000 years BC. Prior to the arrival of the Spaniards, the Acolhua (Colhua) hill that surrounds the current municipal seat was a site of political importance for housing the lordship of King Teniamascuicuil. During the colonial period, the territory was subject to the encomienda system that modified the original settlement, and later it was subject to the evangelization process by the Franciscans: the Xolalpan Community Museum and the Ex Convent of San Francisco; in the vicinity of this head, the Church of San Francisquito is important.



WORKSHOPS HELD IN IXTACAMAXTITLAN PHOTOGRAPHIC RECORD



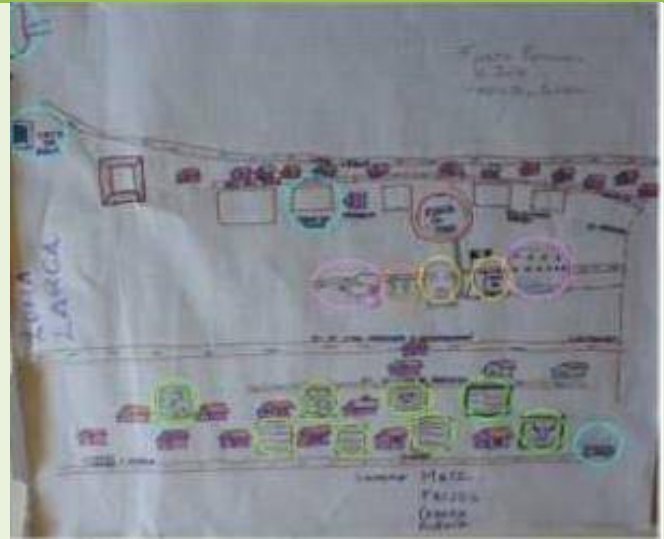
- According to the workshop carried out with the children in the municipal capital of Ixtacamaxtitlan, the use of the land in agricultural and livestock activities is registered mainly among the grandparents, being less among the new generations. None of the minors indicated that they participate in these activities because, they pointed out, they concentrate on their studies; their parents, in addition, gradually integrate them in household activities as they grow up, in this case, cleaning and tidying activities within this space. In other words, the children in this community relate more to the home than to the field.
- Although traditional activities such as fruit growing (predominantly apples, pears and peaches) are still carried out, these are regularly located in backyard areas within homes or in small orchards distributed on private properties, some even in plots located within the urban area itself. It was also indicated that years ago families used to go to the Apulco River for recreational purposes, but now children are prohibited from visiting this area because of the contamination levels.
- Among the children's rights with which they most identified according to their context, the following stand out: the right to life, to health, to education, to a home, to a healthy environment, to live in a family, and to be free from discrimination.

IXTACAMAXTITLAN WORKSHOP "CHILDREN'S RIGHTS".



- Loma Larga is located to the north of Ixtacamaxtitlan (municipal seat) and Santa Maria Zotoltepec, which is the entrance to the community.
- It neighbors the territories currently occupied by Almeya and Cruz de Ocote located to the north, and Santa Maria Zotoltepec located to the southeast.
- Loma Larga is a dispersed settlement distributed over several hills; in this case, the hill known as Centro (Center) has the following community spaces: the church, the school, the health center, the bullring and the cemetery.
- The community lacks nearby rivers, so they are supplied by a spring located at Cruz de Ocote and another located southeast of Loma Larga, at a point known as El Capulin.
- The topography of the community limits the cultivable area, so there are small rainfed plots located between the houses; these plots are used after the harvest as grazing areas for the cattle produced on a small scale.

LOMA LARGA MAP OF THE TERRITORY



One point to highlight is that practically half of the houses have been abandoned because the inhabitants have migrated to other municipalities in search of employment.

LOMA LARGA

Although the inhabitants do not have an exact reference about the origin of the community, they point out its probable formation from the Ex Hacienda de Almeya.

Land tenure is private and its use is mainly agricultural, with crops such as corn grown in small rainfed plots located in areas immediately adjacent to the houses. An additional strategy is the use of greenhouses located on the margins of the road leading into the community, where tomatoes are mainly grown.

The most common animals found in the area are rabbits, hares, hawks, coyotes, opossums, foxes, quail, rattlesnakes, doves, and armadillos. Although they hunt for food, this practice is only carried out from October to March, because the rest of the year is closed. In terms of wild flora, the giant tree, estafiate, necachamil, and pashle (hay) predominate; of these, the giant tree, estafiate, and necachamil are used for medicinal purposes.



WORKSHOPS HELD IN LOMA LARGA PHOTOGRAPHIC RECORD



- Among the communities studied, Almeya is one of the settlements located in the highest part of the municipality of Ixtacamaxtitlan. Its territory is adjacent to the communities of Loma Larga to the south, Cruz de Ocote to the northeast, and the municipality of Aquixtla to the southwest and west. It is also one of the most distant communities from the Project, however, it has several access routes from Cruz de Ocote and Loma Larga, up through Santa Marta Zotoltepec, and Coayuca, municipality of Aquixtla.
- Drinking water is supplied by a spring known locally as “Las Canoas’ and, as mentioned above, the community also uses rainwater for planting and for livestock. Almeya also joined the Sembrando Vida Program, starting with fruit trees such as peaches, apples, pears and plums: Recently, the *ejido* owners have integrated forestry species, which will allow them to continue one of the uses that has energized the local economy for years. In addition, tomato production in nurseries is a distinctive feature of the community.
- The center of the community is the point where religious festivities are held in the church, civic events organized by the schools, and sporting events.

ALMEYA MAP OF THE TERRITORY



The population center is surrounded by plots and lands that make up a common use area; although it is dispersed, there is a small area that concentrates community use spaces such as schools, church, auditorium, sports areas and health care.

ALMEYA WORKSHOP "CHILDREN'S RIGHTS".

- The community uses the land for agricultural, livestock and forestry activities; its practice is part of the domestic unit that integrates different generations: grandparents, parents and children, including school-age children. Learning for them takes place in formal spaces such as school, but also in the domestic space, supporting productive activities related to livestock and agriculture; in this case, the children indicated that as they grow older, they are given responsibilities such as caring for domestic fowl, grazing and, in the field, teaching agricultural activities, as well as gathering edible plants and firewood.
- In this way, the children are learning the integral management of the field, as they obtain corn and beans for family consumption; stubble for the animals; and fruit from the trees that have been planted since previous generations or, more recently, by their parents. In this sense, a direct link between the children and the countryside and the natural resources that exist in the territory occupied by their community was identified.



WORKSHOPS CONDUCTED WITH CHILDREN FROM ALMEYA PHOTOGRAPHIC RECORD



- La Vega is located to the northwest of the municipal seat, it is a dispersed settlement with an access road that crosses Santa Maria Zotoltepec, from a dirt road; its territory is close to the latter town, the entrance to La Vega is from a bridge called "Puente de las campanas" which crosses a river of the same name.
- The community has small properties that pump water from the Apulco River for crops and livestock (cows and pigs), mainly during the rainy season when the river's flow increases, and the water from the Las Campanas River. They mainly sow corn, beans, barley and potato, as well as fodder oats, being in all cases for self-consumption.
- Among the spaces of symbolic importance, the church located at the entrance to the community and the cemetery located on the outskirts of the village were identified; there is also a symbolic cultural space, linked to the history of the community, the old part of what used to be the Hacienda de La Vega.
- Some of its residents take advantage of the escamoles season to collect some of them in the Project area.

LA VEGA MAP OF THE TERRITORY



- The community is the most immediate to the municipal capital, its territory is bordered to the north by Ahuateno, to the east by Ixtacamaxtitlan, and to the northwest by Santa Maria Zotoltepec. It is also one of the communities located on the banks of the Apulco River.
- Land tenure is based on private properties, these are distributed on both sides of the road that goes from Apizaco to the center of Ixtacamaxtitlan, so not all owners have access to the Apulco River but only seven families; the properties farther away from this tributary have the use of a spring located southwest of the community, the water in both cases is supplied from hoses as shown on the map (pink lines).
- According to this graphic representation, this is a dispersed settlement; the spring mentioned above supplies water to the homes and community spaces such as the school and the church, as well as to the homes located to the south of the Apizaco-Ixtacamaxtitlan highway. In this case, practically all of the small properties are used for planting corn, beans, oats and lima beans.

EL ENCANTO MAP OF THE TERRITORY



Livestock raising is carried out on a small scale as a backyard activity, with goats, sheep, and chickens. Both agricultural and livestock production are for self-consumption, except in the case that the family needs to make monetary expenses (regularly emergent), they resort to selling some of these animals.

IDENTIFICATION OF STAKEHOLDERS

Rights Holders	<ul style="list-style-type: none"> • Communities • Federal: Ministry of the Economy, Ministry of the Environment (“SEMARNAT”), the Natural Water Commission (“CONAGUA”), Environmental Protection Agency (“PROFEPA”), the National Agrarian Registry (“RAN”), the National Institute for Anthropology and History (“INAH”), the Undersecretary of Human Rights, Population and Migration from the Interior Ministry. • State: Ministry of the Interior, Ministry of Economy, Ministry of Environment, Sustainable Development and Land Management of Puebla. • Municipal: City Hall; Urban Development, Ecology, Environment, Public Works and Services Department; Government, Justice, Public Safety and Civil Protection Department; Industry, Commerce, Agriculture and Livestock Department. • Civil organizations: PODER, FUNDAR, Tiyat Tlali Council (<i>Consejo Tiyat Tlali</i>); Union of Ejidos and Communities in Defense of Land, Water and Life (<i>Union de Ejidos y Comunidades en Defensa de la Tierra</i>), Members of the Community and Ejido Tecoltemi.
Duty Holders	
Other Stakeholders	

Result 2: Human Rights Baseline.

The baseline in an HRIA describes the state of enjoyment of human rights at a specific time in relation to the development of a specific project or activity. The determination of the level or state of enjoyment of rights is based on two fundamental elements:

- (i) Field evidence; and
- (ii) A comparison of the data obtained in the field against the rights established in the Mexican domestic legal system and in international treaties entered into by the Mexican State.

Exhibit 18 of the complete HRIA document includes a series of indicators on the sociodemographic context of the communities within the Project’s area of influence, in general terms we can indicate the following sociodemographic indicators:

Table 14 Socio-demographic indicators	
<i>Data</i>	<i>Information</i>
Female and male population	Overall, there are a total of 1,927 people in the project’s area of influence, of which 1,013 are women and 914 are men.
Health	In the area of influence there are a total of 1,595 people entitled to health services, while 332 are not registered with these services. Proportionally speaking, 82.77% of the total population in the area of influence benefits from these services, while the population without access is equal to 17.23%. The town of La Vega has 100% of the population with the right to some health institution; on the contrary, the town with the lowest percentage of coverage in this sense is Ixtacamaxtitlan (code 0149), with 58.33%.

<p>Basic services</p>	<p>In the area of influence there are a total of 496 inhabited private homes, of which 7.06% have dirt floors; 2.02% do not have electricity; 4.23% do not have water inside the home; 7.66% have a latrine; 8.47% do not have sewage. Finally, 23.23% do not have any property, i.e., homes that do not have a refrigerator; washing machine; microwave oven; automobile or truck; motorcycle or moped; bicycle used as a means of transportation; any radio listening device; television; computer, laptop or tablet; Internet; fixed telephone line; cellular telephone; pay television service (cable or satellite); pay movies, music or video service over the Internet or video game console.</p>
<p>Schooling and illiteracy</p>	<p>In the area of influence there are a total of 170 people aged 15 years and older who do not know how to read and write. Of this number, 103 are women. On the other hand, there are 149 people who do not have schooling, that is, people 15 years of age and older who did not pass any school grade or who only have preschool level. Of this number, 90 are women.</p>
<p>Degrees and Indexes of Marginalization</p>	<p>Based on information from CONAPO 2020, there are two localities with a degree of marginalization equal to very low (Ixtacamaxtitlan code 0001 and Ixtacamaxtitlan code 0149). Some localities have a medium degree of marginalization such as Ahuateno, Zacatepec, Almeya. The rest have a low degree of marginalization.</p>

Source: Own elaboration based on data from the Census of Population and Housing 2020 INEGI.

At this point, it is important to note that the HRIA process took several months to complete. Especially because during the year 2021 and already in 2022, the pandemic event by COVID influenced in such a way that the participation tools had to be applied in different ways with the inhabitants of the communities in the area of influence of the project. There was an action protocol for COVID 19 and, above all, the meetings were always conducted with due care, both in the personal interviews and in the workshops, where we always worked with small groups. In short, the following were carried out:

1. 449 surveys were conducted in communities in the project's area of influence.
2. Focus group workshops in **Phase II** and **Phase IV**. Given COVID, small focus group meetings were held. Meetings were held with attendance from two to ten people on average.
3. Interviews with rights holders.

The elaboration of an HRIA baseline is a complex task because subjectivities must be avoided and there are no official or formal data regarding the level of compliance with human rights involved in the development of a specific project, in this case the mining project to be installed and operated in the Municipality of Ixcamatitlan, State of Puebla.

This baseline has been fed by the results of workshops, interviews and surveys that allow us to know the perception of the rights holders regarding the human rights that could be affected by the construction and operation of the Project.

To a large extent, the baseline takes and analyzes the data obtained from the three different participation tools with the communities related to the project, i.e.: (i) surveys, (ii) workshops, and (iii) interviews.

Based on the results of the three tools mentioned above, it was possible to define the human rights that are of particular concern to the members of the communities that could be affected by the Project, being these the main problems or needs that they identified:

- (i) Lack of employment,
- (ii) Lack of government support,
- (iii) Water scarcity,
- (iv) Lack of education, and
- (v) Lack of access to quality health services.

In accordance with the above, we can point out, as mentioned below, that the elements that most concern the communities related to the Project in a negative sense are:

- a) Water scarcity and lack of water availability;
- b) Possible contamination of various elements and natural resources: water, soil, subsoil, air and noise generation;
- c) Potential health impacts from the implementation and operation of the Project; and
- d) Lack of information about the Project and its effects on the community and its members.

On the positive side, the main benefit that the inhabitants of the region link to the Project is a greater economic benefit, both direct and indirect, particularly derived from the creation of employment positions within the Project, as well as outside of it, due to the commercial transactions and provision of services that the Project will undoubtedly generate. It is important to mention that the baseline was constructed with a catalog of human rights recognized by the Mexican legal system and the international treaties signed by the Mexican State in this regard. The result of the comparison exercise between the results of the surveys and the human rights catalog focuses, among others, on the following rights:

- a) Right to an adequate standard of living;
- b) Right to a healthy environment, access to water and health;
- c) Right to decent work;
- d) Right to food;
- e) Right to citizen participation, right to free, prior and informed consultation, right to shared benefits and right to equality;
- f) Right to information and freedom of expression;
- g) Right of access to quality utilities; and
- h) Right to safety, directly related to the rights to life and physical integrity.

It is important to point out that the comparison exercise carried out to build the baseline shows that the human rights impacts that the Project may generate are not particularly significant or different from other similar or industrial projects, in addition to the fact that the possible violations to them can be effectively prevented or, failing that, the application of a good management strategy together with the implementation of the various programs to address the environmental and social issues generated by the Project, may be avoided or significantly reduce their negative impacts and effects to the maximum extent possible.

Result 3: Participation of rights holders.

Workshops

Based on the workshops conducted (**Exhibit 8** and **Exhibit 10** of the complete HRIA document), a systematization of the concerns of the inhabitants of the localities located within the area of influence of the Ixtaca Project is presented. It is divided into the following topics:

- Community.
- Health.
- Water.
- Environment.

- Other topics of interest.

Table 15. HUMAN RIGHTS CONCERNS	
Law involved	Community
RESULTS	
What aspects of your community do you think could be changed by the mining project?	
Identified issues Negatives	<ul style="list-style-type: none"> • Water: a) Affects the springs. b). Shortage of drinking water due to the presence of people from outside the communities. • Contamination of a). water and groundwater; b). by noise; c). by vehicles; d). use of chemical substances; e). crop land; f). generation of garbage. • To health a). due to mishandling of cyanide (spills); b). reduced availability of health services; c). due to dust generation; e). to workers' health. f). respiratory diseases and genetic deformities. • Insecurity: a). Social changes and drug addiction problems due to the presence of people from outside the communities. b). Increase in delinquency. • Environment: a) Environmental impacts, b) Loss of flora and fauna, c) Landscape alterations. • Economy: Escamoles. • Information: Lack of knowledge among the population of emergency plans and others.
Identified issues Positives	<ul style="list-style-type: none"> • Economic development: jobs for some members of the communities) and benefits from the demand for services and goods. • Possible improvement of roads, educational facilities, health and other infrastructure works. • Possible reforestation support.

Table 16. HUMAN RIGHTS CONCERNS	
Law involved	Health
RESULTS	
Why do you think the Project could harm your health?	
Identified issues	<ul style="list-style-type: none"> • Diseases: 1). Affections due to the misuse of chemicals (the most mentioned is cyanide). 2). diseases (cancer). • Waste used by the mining company.
What aspects of your health do you think could be harmed by the Project?	
Identified issues	<ul style="list-style-type: none"> • Respiratory diseases, skin cancer, short life span, sterility in women. • Deformities to infants.

Table 17. HUMAN RIGHTS CONCERNS	
Law involved	Water
WORKSHOPS	
Why do you consider that the Project could damage water resources (water)?	
Identified issues	<ul style="list-style-type: none"> • Contamination: 1). of spring water (use of cyanide). 2). Impacts from chemical spills. 3). Lack of maintenance of the mine infrastructure. 4). Of the aquifers. • Possible water damage due to the use of chemicals (spills). • Decrease in water from springs. • They think they can divert subway streams and rivers with drilling. • That the water can go down the pit. • Overexploitation of the communities' water resources. • Affected by drilling activities.
In relation to water, what damages do you consider the Project could cause?	
Identified issues	<ul style="list-style-type: none"> • Drinking water: contamination by toxic substances, decrease of the resource, less water due to the demand of external people. • Irrigation water: contamination with chemicals from the mine. • Contamination and drying up of the river. • Damage to "water veins", subway rivers changing course through the pit. • Overflow of water collected for the project. • Diseases.

Table 18. HUMAN RIGHTS CONCERNS	
Law involved	Environment
WORKSHOPS	
Why do you consider that the Project could cause damage to the environment?	
Identified issues	<ul style="list-style-type: none"> • Contamination: Due to the use of chemical substances (air, soil, water) used in the mineral extraction processes at the Project. • Overexploitation of water for use in the mine. • Vegetation affected by water scarcity. • Air pollution due to dust. • Impacts from logging. • Death of animals. • Lower agricultural productivity. • Failure of the company to comply with mitigation and compensation plans (environmental verification).
What aspects of the environment do you consider the Project could damage?	

Identified issues	<ul style="list-style-type: none"> • Contamination: a). of the springs by chemical substances b). of the air by dust. c). of the environment by lack of flora and lack of water. • Water depletion. • Possible decrease in the flow of the Apulco River affecting farmers. • Infertile lands. • Where the mine is, there will be no more vegetation. • Scarcity of flora and fauna. • Scarcity of the maguey where the escamoles are found.
--------------------------	---

Table 19.
HUMAN RIGHTS CONCERNS

Law involved	Additional concerns
WORKSHOPS	
What other concerns do you have about the mine's activities?	
Identified issues	<ul style="list-style-type: none"> • Insufficient and truthful information: 1). Lack of information about what the project is and the impacts it could cause (water, health, environment). 2). Lack of knowledge of the project's emergency and accident plans, among others. • Health: 1). Illnesses as a consequence of mine activities. 2). Affections to workers who are in the mine (accidents). • Roads: Road closures. • Social organization: 1). Concerns about the presence of people from outside the communities (social disorganization); 2). concern about the arrival of criminal groups in the region. 3). Intra-community division and families. 4). Concerns about the safety of girls and young people in the communities. • Human rights: In a workshop, participants argued that the mine violates their rights by remaining in the area because it disobeys the SCJN. • Amparo-SCJN: In a workshop participants argued that the mine should have already left the region because they lost the amparo and the Supreme Court ordered them to leave the community. • Benefits: In a workshop the participants asked about what extra benefits the project would have, i.e. for them only jobs do not seem enough since they are aware that the members of the communities can only access basic jobs and not all will be hired and at the end of the project the communities will be left the same or worse than the beginning of the project. • Jobs: People from the communities are not hired due to lack of experience. • Potential crop damage. • Failure of the company to comply with environmental laws and plans to avoid or mitigate impacts. • In a workshop, the formation of a community council to closely monitor the mine's activities was proposed.

Result 4: Phase IV of the HRIA.

According to the methodology used, **Phase III** corresponds to the analysis of impacts based on the participation tools applied in **Phase II**. Therefore, the preliminary results of the HRIA and an initial

proposal of measures to avoid and mitigate impacts were returned to various focus groups (**Exhibit 9** of the complete HRIA document). The following table itemizes the main results or doubts of the people who participated in this exercise. It is important to point out that this exercise should be enriched in later stages and seek the participation of other stakeholders of interest for the HRIA.

Table 20.
Systematization Phase IV

PROJECT

- What technology will you use for the dams?
- Pit diameter and depth.
- Place where the mining waste sites will be located.
- Use of water for mine operation.

ENVIRONMENTAL IMPACTS

- Will the company repair all the impacts it causes, and in what form?
- They want more information on water integration measures.
- Water contamination (springs, aquifers, surface water)
- What are they going to do with the plants and trees they will remove?
- Impacts on flora and fauna.

HEALTH IMPACTS

- More information about how it uses cyanide, how it is handled and when it can affect people.
- Activities involving the use of chemicals must adhere to the laws that have been created for health and the environment.

IMPACTS ON SAFETY

- How will the company ensure that people in the community are not affected by organized crime?
- Possible changes due to the presence of external workers.

INFORMATION/COMMUNICATION

- Information on negative impacts.
- Inform the greatest number of people; current strategies have not informed the majority. A new strategy must be generated.
- To spread the information to all the people in the communities (in favor, against or undecided).
- Meetings where there is direct dialogue rather than just an exposition.
- Invitations to briefings do not necessarily reach everyone.
- There is not enough information about the project that is why there are people against it.

COMPLAINTS MECHANISM

- They are not aware of the existence of a grievance mechanism and how it operates.
- Mechanisms, times and processes for a complaint are unknown.
- A complaint mechanism has not been elaborated on. How can a complaint be submitted to the company?

OTHER IMPACTS

- What plan will be in place for the management and conservation of the escamoles and their habitat?

- What measures does the company consider to prevent crime and the factors that favor it?

BENEFITS

- Expectation: It will boost the local economy and will improve the lives of families, as it is known that the mines can have many benefits.
- Recruitment profiles which positions can be for local people.
- They do not know who and where to go to request support: they do not know the types of support the mine has.
- That the company implements actions or projects that promote or help the economic development of the communities.

COMMUNITY AND BUSINESS

- The community has the right to follow up on the commitments made by the company and the studies it is conducting.
- They comment that it is necessary for the company to sit down to dialogue and negotiate not only the fulfillment of the actions to mitigate human rights impacts, but also all the benefits to which they will be entitled.

Result 5: Potential environmental impacts.

One of the most important elements within the methodology hereof is the identification of the environmental impacts that the Ixtaca Project will have within the area of interest of the project. A summary of the main results of the environmental impact assessment that accompanies this HRIA is included in **Exhibit 5** of the complete HRIA document.

Therefore, it can be indicated that from the environmental studies carried out, the **residual evaluation of the impacts** that the project may cause or potentiate, are presented mainly in soil, which includes the surface that will be affected by the development of the project, and given the activities that will be developed, originated by the change in land use due to the exploitation of the mining deposit, modifying and creating the possibility of **erosion**.

The construction of **infrastructure will be limited to the surface of the polygon authorized for each area**; to ensure that this occurs, prior to the start of the work, the demarcation of each area will be carried out.

The Project requires the modification of surface area and creates the potential for erosion since the **development of the open pit and the mine requires clearing, excavations and/or blasting**; likewise for **the disposal of mining waste and tailings there will be a possible impact on the relief of the area and the alteration of the morphology of the terrain**, in addition the different activities that are carried out during the operating stage cause potential erosion. **The SAR (“Sistema Ambiental Regional” or Regional Environmental System) presents a differentiated degree of erosion, with three predominant degrees in percentages of cover.**

The application of mitigation and/or prevention measures will result in the impacts identified in relation to this right being imperceptible, insignificant and/or residual, as can be identified in **Table 25** and **26** of the complete HRIA document.

Critical environmental impacts

It should be noted that **the critical environmental impacts** will occur mainly in the site preparation stage, and in the operation and maintenance **during the development of the open pit and mine**. Due to the introduction of industrial infrastructure and modifications to the land for its operation,

there is a loss of vegetation cover and changes in the natural environment such as loss and/or fragmentation of ecosystems that affect the genetic flow of species.¹

Given that **for the development of the Project it is necessary to remove the vegetation present in the areas to be occupied**, the plant species will be eliminated in their entirety, after carrying out the relevant rescue operations. However, the application of mitigation and/or prevention measures will result in the impacts identified in relation to this right being imperceptible, insignificant and/or residual.

Landscape

In the vegetation, the possible residual impacts identified will be due to clearing and clear-cutting activities, which may have an environmental impact on the extraction of forest species, whose floristic composition is impoverished, whose soil retention capacity is diminished by the effect of erosion caused by the clearing during the site preparation stage in the project area and whose surrounding biodiversity will be affected by suspended particles, as well as by the extraction of species caused by logging, domestic use by the inhabitants and other anthropogenic actions. This will cause a **change in the landscape structure**.

The Project requires soil modifications, for the development of the Project it is necessary to remove the vegetation present in the areas to be occupied, the plants will be eliminated in their entirety in **certain areas of the PA, after carrying out the relevant rescue operations as well as alteration in the distribution of vegetation (fragmentation and loss of connectivity)**.¹

The application of mitigation and/or prevention measures will result in the impacts identified in relation to this right being imperceptible, insignificant and/or residual.

Water resources

Environmental impacts include surface water and groundwater that will be influenced by project activities, through uptake, discharges or spills, contamination as appropriate and that are located within the PA and that may also remotely influence water bodies in the IA directly by the project.

The application of mitigation and/or prevention measures will result in the impacts identified in relation to this right being imperceptible, insignificant and/or residual.

Waste

It should be noted that according to NOM-120-SEMARNAT-2020, which establishes environmental protection specifications for direct mining exploration activities in agricultural, livestock or wasteland areas and in areas with dry and temperate climates where xerophytic scrub, tropical deciduous forest, coniferous or oak forests develop, will be applied as in the case of numeral 4.1.16. Garbage must be controlled and disposed of temporarily or permanently in a place designated by the local competent authority. Likewise, the use of portable toilets or hygienically constructed and operated latrines shall be required. If latrines requiring water are used, a septic tank of adequate capacity must be constructed. In all cases, the design must ensure that contamination of the subsoil by infiltration is avoided. Also, at the end of the activities, they must be covered and decommissioned in accordance with applicable official Mexican standards.

Significant environmental impacts

Significant environmental impacts will occur mainly during the site preparation stage, which will begin with the clearing of the area that will undergo a change in land use; another stage in which the greatest impacts are generated is during the operation and maintenance stage of the mine, which is

projected to operate for 11 years.

In sum, the following tables indicate the potential environmental impacts identified:

Table 21. Impacts to soil
<ul style="list-style-type: none"> • During the clearing activity, for the site preparation stage, given the nature of the project, which consists of removing the vegetation that has been determined to be removed (trees, bushes, grasses) from the work sites. This work will be done using heavy machinery, which will result in the loss of fertile soil. To mitigate this impact, the product of the clearing will be subject to crushing and deposited next to the fertile soil rescued where the open pit will be developed. • During road rehabilitation and construction, minor excavations and earthworks will be carried out, which will result in soil loss. • The leveling and compaction will consist of filling the ground surfaces with suitable materials and then proceeding to compaction with equipment and machinery. This will alter the geomorphology of the land. • The removal of vegetation cover for the development of the Project may increase erosion, and it should be noted that the area currently has a high rate of wind erosion. • Alteration of soil morphology due to leveling and compacting activities for road construction and rehabilitation. • The excavation will have the impact of removing large volumes, and the development of the open pit throughout the life of the project will significantly modify the relief of the area, altering the morphology of the terrain. • Due to the disposal of mine waste and tailings, this will cause soil type change as well as loss. • The development of the open pit and the mine will increase erosion due to clearing, excavation and/or blasting. • Failure to properly manage the waste could result in soil contamination, as well as loss derived from remediation actions of the contaminated soil. • Impact on soil quality resulting from activities carried out by machinery, as well as from remote accidents. • Reduction of agricultural land due to land use change.

Table 22. Impacts to air
<ul style="list-style-type: none"> • Possible generation of suspended particulate matter due to atmospheric emissions from vehicles and machinery for the development of the project. • The activities for the development of the open pit and mine will generate emissions of dust particles and greenhouse gases into the atmosphere as a result of the excavations. • Noise emissions will be caused during blasting for open pit and mine development.

Table 23. Impacts to water.
<ul style="list-style-type: none"> • When there is a modification of the soil morphology, runoffs or currents are impacted by changing their trajectory. • Precipitation will be removed from the Mining Waste Site and handled in the pit collection pond and used in the process plant. • Due to the loss of rainwater infiltration surfaces, the recharge of springs in the

PA will be impaired. In the municipality of Ixtacamaxtitlan as of December 2012, 22 springs were registered as a source of supply.

- In the areas where the mine infrastructure will be established, recharge will be affected.
- Water wells will be affected due to the decrease in groundwater recharge.
- During the construction activities of the open pit and the mine, the quality of the groundwater (change in the physicochemical characteristics) could be affected if care is not taken with the waste.
- Changes in currents or movements of freshwater masses since the project considers the construction of two dams (FWD and WSD) to capture runoff from upstream of the open pit.

Table 24.
Impacts to landscape

- The development of the open pit and mine will cause impact due to the total change of the original features ranging from the relief and vegetation cover.
- During the ore mineral extraction process, the original land use will be changed.
- The relief conformation of the area is susceptible to landslides affecting other areas.
- The location and development of the mining waste sites throughout the life of the Project will significantly modify the relief of the area, altering the morphology of the terrain.
- The open pit area, due to its characteristics, will not recover its natural morphological conditions, generating a different type of habitat at the end of the activities.
- Loss of visual quality
- Modification of the visual quality. The modification of the visual environment will be total; however, the closure works will seek to generate visually pleasing spaces.

Measures to prevent and mitigate environmental impacts.

As mentioned above, several teams participated in this HRIA, one of them worked independently in the preparation of an Environmental Impact Assessment (MIA), to be submitted to the Ministry of the Environment (SEMARNAT). A summary of the results of this investigation can be reviewed in **Exhibit 5** of the complete HRIA document. This investigation team submitted an Environmental Monitoring Program with prevention, mitigation and compensation measures to avoid, reduce and, if necessary, compensate for the effects of significant environmental impacts that could be caused by the Project. According to the draft MIA (2022), the measures to avoid or mitigate environmental impacts can be summarized as follows:

- *Stability of pit slopes, mining waste sites and road slopes through proper design and operation.*
- *Safety of containments to be constructed around facilities for the storage and use of hazardous materials and wastes.*
- *Control of atmospheric emissions.*
- *Prevention of soil, surface water and groundwater contamination.*
- *Surface water management.*
- *Design and maintenance of surface water management works.*
- *Erosion control measures.*
- *Design and maintenance of roads and road crossings.*
- *Fauna protection and restoration actions.*

This draft environmental study indicates that “the prevention, mitigation and rehabilitation measures have been proposed considering the specifications of the Mexican Official Standards, (...), which are applicable to the nature of the Project, in terms of air, waste, noise, water, soil, flora and fauna, as well as the Standards that are applicable in terms of occupational safety”. Likewise, a series of **scenarios** are indicated, since if these measures contained in the Environmental Monitoring Plan (PVA) are applied, the impacts would change:

Table 25. Scenarios when applying mitigation measures	
Significance goes from high (critical) to severe-moderate	<ul style="list-style-type: none"> • Soil loss and contamination, • Decrease in the infiltration coefficient of the soil, • Increased levels of sedimentation and pollution in runoff, • Increased surface water flow, • Groundwater contamination, • Decrease in groundwater recharge capacity. • Alteration of the natural topography of the terrain. • Loss of habitat and biological corridors, and • Deterioration of the quality and harmony of the landscape.
Significance goes from high (critical) to severe-moderate	<ul style="list-style-type: none"> • Increase in the concentration of suspended particles in the air, • Increase in the concentration of polluting gases, • Increase in site noise levels • Vibration emission, • Decrease in the abundance of fauna populations.

The draft MIA indicates the identified **scenario** with the proposed mitigation measures:

Table 26. Scenarios	
Factor	With Project and Measures
Land Use	<p><i>Actions for soil protection and conservation, reforestation activities and the implementation of construction practices aimed at reducing or at least controlling erosion processes, will contribute to the maintenance of land uses, as well as helping to curb the possible fragmentation of ecosystems.</i></p> <p><i>The implementation of an integrated program for urban solid waste, special and hazardous waste, a cleanup program, and training will prevent resources such as soil and water from being affected by their dispersion or contact with them.</i></p>
Air	<p><i>The Project with the proposed measures of water irrigation and/or application of soil stabilizers to control dust/ (emission of particles into the atmosphere) will be minimal since its application will be constant during the life of the project.</i></p> <p><i>In addition, the possibility of preventing and fighting forest fires in a timely manner makes a significant contribution to the region's air quality. Noise levels will not be excessive and will not be perceived by the nearest receiving sources, since the communities are approximately 1 and 2 km away, although temporary noise generated by explosions will be generated.</i></p>

	<p><i>Workers in the work areas will be provided with the necessary special personal protective equipment. According to the results of the dust dispersion modeling study, the main sources of dust emissions are roads. Six localities are affected: Sta. Maria Zotoltepec, Tuligtic, Tlayehualacingo, Ixtacamaxtitlan, Zitalcuautila, San Alfonso, and Coayuca.</i></p> <p><i>Equipment and machinery will be subject to periodic maintenance.</i></p>
Hydrology	<p><i>The Project will build a system of dams (FWD and WSD) which will help to alleviate the lack of water infrastructure in the area. The total capacity of the WSD dam will be 1.8 Mm³ of rainwater from the area, which will contribute not only to meet the requirements of the project, but will also allow supply to nearby communities and availability for fauna.</i></p> <p><i>Soil and water conservation and restoration works (upstream) will be carried out, and the civil works project for the continuity of the water supply service will be prepared and executed.</i></p> <p><i>Water recovery and recirculation will be maximized through the tailings filtration process.</i></p> <p><i>There will be no discharge from the mill or the processed tailings.</i></p> <p><i>Adequate collection and disposal of wastewater through authorized third parties significantly reduces the risk of affecting groundwater and soil.</i></p> <p><i>In turn, adequate stormwater runoff management works, allows for the water balance to be maintained, avoiding damage to access roads and construction sites.</i></p>
Fauna	<p><i>The actions of repelling, rescuing and relocating fauna, as well as restoration actions, open up the possibility of conserving the genetic reserve of fauna populations, giving priority to those that are in a category of risk according to Mexican regulations.</i></p> <p><i>For the conservation and reproduction of species listed in a category of protection in NOM-059, they will be relocated to a Management Unit for the conservation of fauna.</i></p> <p><i>These actions help to raise awareness among workers and people in the surrounding communities about the importance of protecting and fauna conservation.</i></p>
Vegetation	<p><i>Actions to rescue and relocate flora, as well as restoration and reforestation actions, open the possibility of conserving diversity and abundance.</i></p> <p><i>The removal of vegetative cover for the development of the project will be gradual to avoid unnecessary exposure of cleared land. Fertile soil that is feasible to recover will be stored and conserved in specific areas to be used during closure and restoration activities.</i></p> <p><i>For the conservation and reproduction of species listed in a category of protection in NOM-059, they will be relocated to a Management Unit for the conservation of fauna.</i></p> <p><i>Plant production in a forest nursery and/or purchase of native forest plants.</i></p> <p><i>At the end of the project's useful life, the plan will be implemented for closure and monitoring, which will include site rehabilitation actions for areas used by the project.</i></p>
Socioeconomic	<p><i>The project will generate approximately 600 direct jobs during site preparation and construction, as well as 420 direct jobs by the fifth year of the operation and maintenance stage for the Ixtaca project (it is estimated that hiring will preferably be of people living in the vicinity, considering skilled and unskilled labor). This will allow them to increase</i></p>

	<p><i>their income and therefore improve their quality of life.</i></p> <p><i>In order that the local economy and the quality of life of the inhabitants of the communities in the project's area of influence benefit as a result of the project's development, the developer will train the inhabitants to implement social benefit programs that will focus on generating the necessary capacities in the communities to generate sustainable economies that will prevent the impoverishment of the population during the operation of the project and once the project's useful life is over, thus diversifying activities in the region.</i></p> <p><i>Once the project is completed, the works that are considered useful for the communities, such as the water dam, will be donated. This will allow the communities to have continuous availability of water for the various necessary activities.</i></p> <p><i>The care and maintenance will be managed by the communities should they accept the donation.</i></p>
Waste	<p><i>The application of prevention and mitigation measures allows for the proper management and disposal of the different types of waste; these actions allow for effective waste reduction, reuse, and recycling practices and the proper disposal of spent lubricating and hydraulic oils generated in the project.</i></p> <p><i>In the future, the project's infrastructure could be used to provide a way to dispose of the waste generated by indirect jobs, such as mechanic shops.</i></p>
Landscape	<p><i>The opportunity to implement the project, taking into account prevention, mitigation and restoration measures, including reforestation areas with species from the region and reconfiguration of the relief, will allow for the gradual recovery of the PA's visual and landscape quality in the medium term.</i></p> <p><i>This will allow observers to identify a permanent anthropized landscape and a better public perception and acceptance of this type of projects in the region.</i></p>

Finally, it is important to point out that the review of the draft MIA prepared by an independent team reached the following conclusions:

Notwithstanding the fact that the activities related to extraction, exploitation and mineral extraction generate negative environmental impacts on the natural environment, mainly on geomorphology and land use, the project contemplates the construction of 13 works, including associated and/or auxiliary works, which are necessary for the extraction and processing of the mineral. Negative impacts will be caused mainly during the first stages: site preparation and construction of civil works and associated works. However, the impact depends almost entirely on the design and technology with which the ore is to be mined.

The Project will handle hazardous substances, of which sodium cyanide (75 tons) is the only substance listed in the 1st List of Highly Hazardous Activities (LAAR).

Damage from possible accidents would occur to operating personnel, facilities and sections of fragmented natural vegetation in the area, without interacting with other risk areas. The closest human settlements to the mill are located in the town of Santa Maria Zotoltepec, approximately 2.60 km to the SE, and the town of Zacatepec at a distance of 3 km to the NE; therefore, they are not expected to be affected. There are no hazardous activities in the vicinity of the project that could jeopardize the safe operation of the facility.

The environmental impacts identified as negative can be considered as critical, based on the methodology and criteria used for the assessment of environmental impacts whose weighted values of importance and significance result in 5 critical.

The prevention, mitigation and restoration measures contained in the PVA are aimed at addressing the impacts on the different environmental factors and parameters affected by the activities and works of the Project. The application of each of these measures in a timely manner will help ensure that once the useful life and restoration stage of the Project is completed, the ecosystem conditions will be as similar as possible

to the original ones.

The PA does not invade any protected natural area of any jurisdiction, nor does it overlap with Areas of Interest for the Conservation of Birds (AICA), Terrestrial Regions (RTP) or Priority Hydrological Regions (RHP), defined by the National Commission for the Knowledge and Use of Biodiversity (CONABIO), however, it does overlap with 2 Priority Terrestrial Sites (STP), both with high priority.

The Project is compatible with the environmental policies of Restoration and Sustainable Use of the Environmental Management Units (UAB 117 and 57 of SR 18.32), the contributors to development for UAB 117 are forestry and mining, while for UAB 57 mining is an activity associated with development. Therefore, there are no limitations to mining activity within the UABs indicated in the POEGT.

According to the results of the archaeological prospecting and excavation work carried out by the Archaeology Coordination of the INAH-Puebla Center, the development of the Ixtaca Project does not jeopardize sites considered of cultural interest or any archaeological heritage.

The Project does not require the relocation of communities.

Considering the problem of water use in the region, the Ixtaca Project incorporates the construction of a 1.8 Mm³ water storage (WSD dam), obtained from the abundant rainfall in the area, which will contribute not only to satisfy the requirements of the mining unit, but will also benefit the nearby communities since they will be supplied.

With respect to flora species considered in risk categories according to Mexican regulations, only 1 species of the 133 species registered in the PA, *Cupressus lusitanica*, was registered in the special protection category. It should be noted that during the field work, several reforested areas inside and outside the PA were observed with this species. With respect to fauna species in some category of risk, only 9 species of the 94 species were recorded; 9 species of herpetofauna and 2 species of birds (*Thamnophis eques*, *Crotalus ravus*, *Phrynosoma orbiculare* in the Threatened category, *Barisia imbricata*, *Plestiodon lynxe*, *Salvadora bairdi*, *Sceloporus grammicus*, *Sceloporus megalepidurus*, and *Lithobates montezumae* in Special Protection) and *Accipiter cooperii* and *Cyrtonyx montezumae* in Special Protection.

Finally, the development of the Project does not preclude the use of the land for other activities such as conservation or, if desired, productive agricultural activities.

It has not been ruled out that, due to the activities and works required for the Project and its relative proximity to the communities in the area of influence, as the Project progresses, the inhabitants will perceive a landscape lacking in natural resources, and that the quality of those perceived will deteriorate or diminish as a result of the Project; however, this does not mean that the set of measures proposed in the VPA is not being implemented.

Thus, the Project is environmentally, technically and economically feasible, highlighting that the main harmful effects will be on the geomorphology, with a local character, that is, only within the PA, irreversible, permanent and difficult to mitigate, given the nature of the mining activity. The rest of the environmental factors can be addressed on different fronts by implementing the different measures in parallel, which allows us to predict that they will be addressed practically in their entirety.

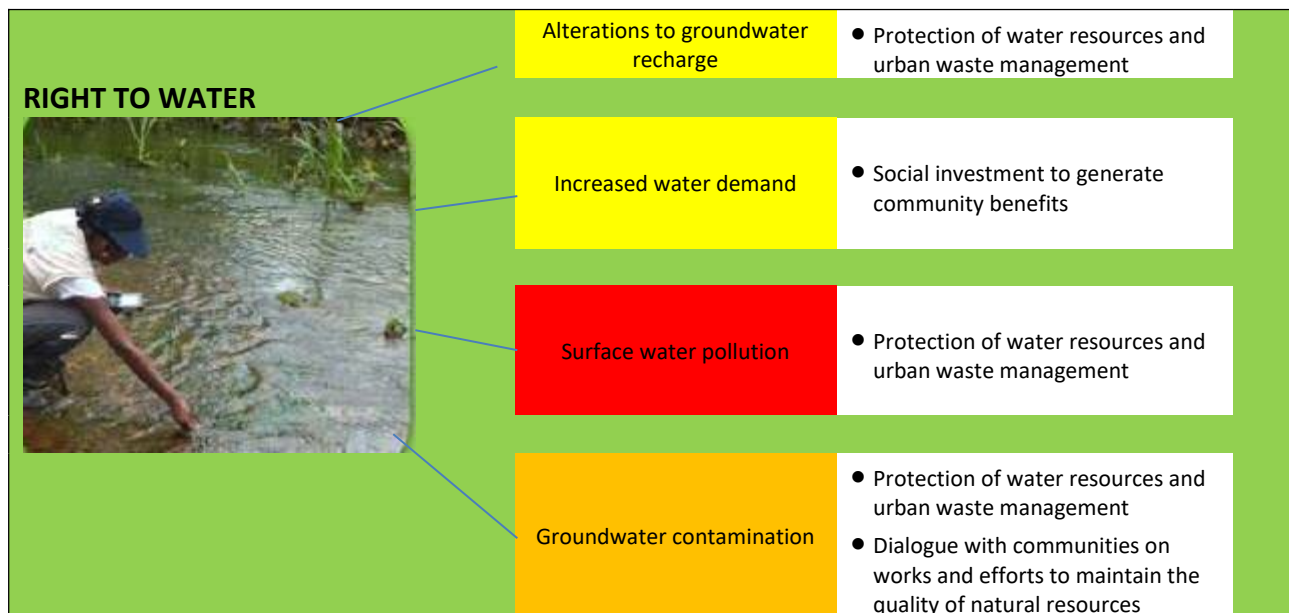
Result 6: HUMAN RIGHTS IMPACTS IDENTIFIED AND MEASURES TO AVOID AND MITIGATE.

The purpose of identifying potential impacts is to be able to **anticipate that these could occur**, provided that, since these are negative consequences, in this case to human rights, the identification seeks to be framed within the Framework referred to in the Guiding Principles on Business and Human Rights to protect them by the State, respect them by the companies and remedy them through improvements to accessibility ways to repair damages to possible victims. It is worth starting by listing the human right identified that could be negatively affected in any of the stages of the Ixtaca Project (Preparation, Construction, Operation), and the number of possible impacts:

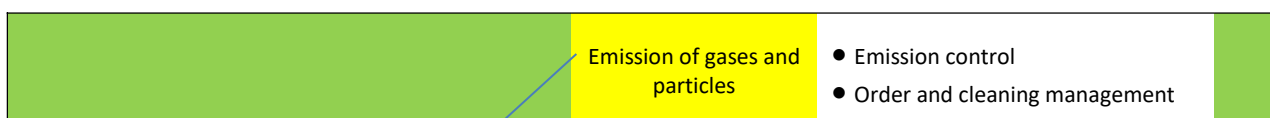
- i) Human right to water (4);
- ii) Right to a healthy environment (7);
- iii) Right to an adequate standard of living (2);
- iv) Right to food (1);
- v) Right to nondiscrimination (1);
- vi) Right to work (1);

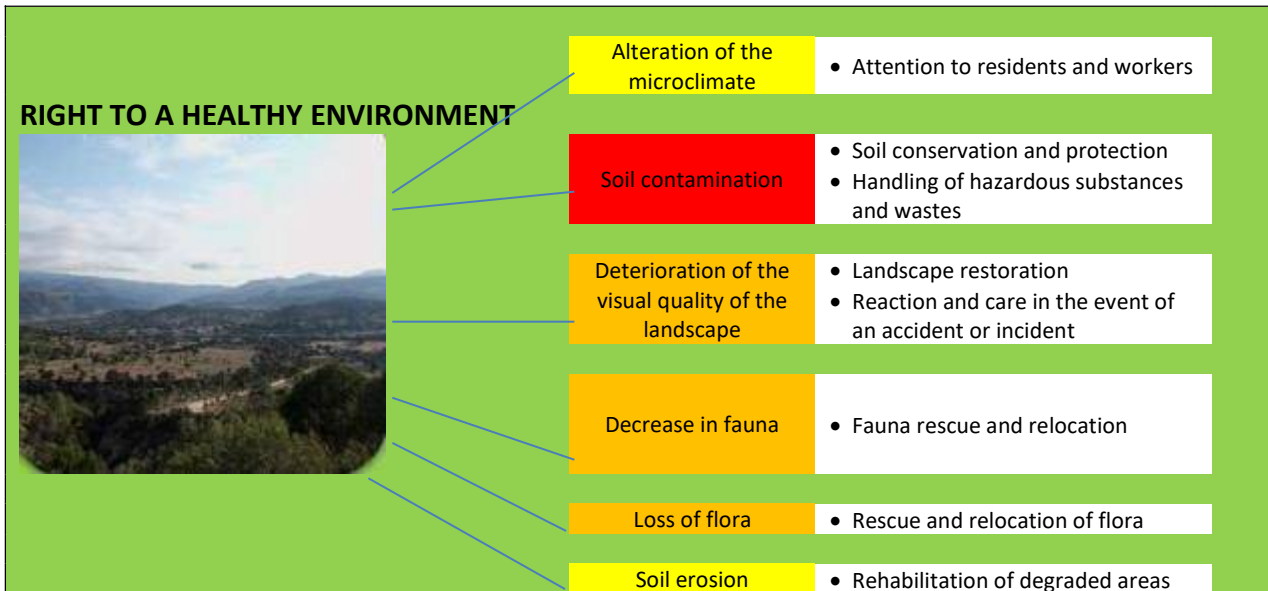
- vii) Right to health (3);
- viii) Right to favorable occupational safety conditions (1);
- ix) Right to move freely (1);
- x) Right to safety (1);
- xi) Right to a life free of violence (1);
- xii) Right to information: (2);
- xiii) Right to development (2);
- xiv) Right to culture (1);
- xv) Right to participate (1);
- xvi) Right to property (1);
- xvii) Right to public and quality services (1);
- xviii) Right to sustainable development, conservation and climate change (1);
- xix) Right to biodiversity (1).

According to the methodology used for this HRIA, each impact was evaluated considering several aspects focused on determining the possible severity and possible occurrence in the area of impact considered for the Ixtaca Project. These possible impacts to human rights identified, as well as the mitigation measures proposed for each one, are shown below, also in a synthesized manner.

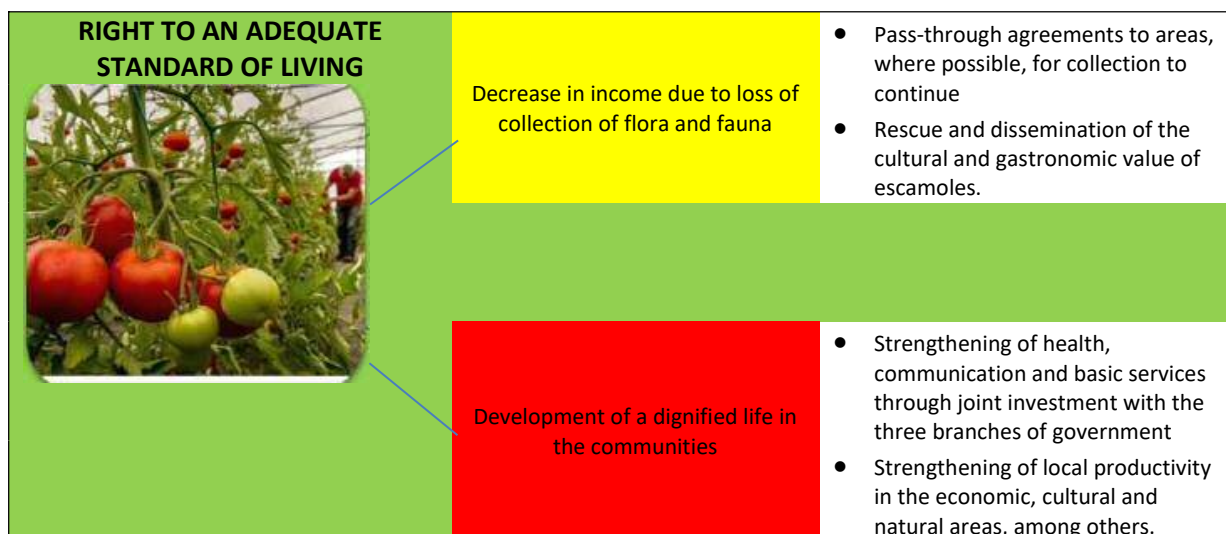


Each image shows the impacts (by human right) within colored shapes (red, orange and yellow). Each of these colors represents the severity with which an impact has been assessed as likely to occur. According to the methodology followed, this severity is used to rank the impacts according to the degree of negative consequences that could occur (if any): red represents highest severity, orange represents moderate severity and yellow represents tolerable severity. This is only in the event that it is not given due attention, since **it is the mitigation measures** that are located within the white boxes **that will serve to reduce the magnitude, apply a solution or minimize the occurrence of such an impact**, i.e., it is these measures that will help prevent the occurrence of such an impact. These are the measures that will help to prevent/minimize the occurrence of the negative consequence and therefore, the company will have to carry them out throughout the processes both prior to the operation and during its duration, using the color to prioritize the attention based on its possible risk of occurrence (severity/probability).





This does not mean that those impacts, because they are tolerable, will be neglected. By prioritizing it is meant to bring an order of attention to those impacts that could be most significant, when it is not possible to give attention to all of them at the same time, as would occur when they occur in a certain cycle of the Ixtaca Project, i.e., a possible occurrence of soil contamination could occur from the beginning of the site preparation works and therefore, it is required to reduce the probability of occurrence from this stage of the Project, applying mitigation measures; While an increase in water demand would occur in the operational stage, such as when a prolonged drought occurs, so it is required to start the social investment processes, but not necessarily execute all of them from the beginning of the Site Preparation, as these may be planned in phases, or according to a projected schedule between stakeholders (duty holders-rights holders), to mention an example, especially when it is projected that the communities have sufficient resource through the water from the WSD dam. In this case also (prolonged drought), the company may determine to reduce its activities until the drought passes or continue with them if the reserved volume does not affect the resource to the communities and this action must be discussed with the communities.



RIGHT TO FOOD



Decrease of flora and fauna collection areas

- Rescue and dissemination of the cultural and gastronomic value of escamoles.

RIGHT TO NON-DISCRIMINATION



Discrimination based on gender

- Capacity building for women's employability
- Management of gender equity and anti-harassment policies

RIGHT TO WORK



Hiring based on educational level

- Plan for hiring unskilled labor with training

Inequality in the hiring of workers

- Approaching the state of Puebla for training in various technical areas and increasing the number of local personnel

RIGHT TO HEALTH



Affectations by chemical substances

- Handling of hazardous substances and wastes

Health damage from exposure to suspended particles

- Control of atmospheric emissions (preventive and corrective mechanical maintenance of machinery and vehicles; risk of roads with pipelines).

Health damage due to noise exposure

- A sonometric study conducted indicated that there was no impact on neighboring communities. Even so, constant monitoring and recording will be maintained; and in the event of any complaints, a study will be conducted to address them.

RIGHT TO FAVORABLE WORKING SAFETY CONDITIONS



Accident generation in work areas

- Health and safety plan for workers: use of personal protective equipment; emergency response training; transportation of substances using safety standards.
- Training in handling of hazardous substances and wastes

RIGHT TO INFORMATION



Disinformation in the communities

- Communication mechanism implementation and reinforcement
- Informative meetings with communities in public spaces, in non-working hours and days
- Information to communities to clarify doubts through: informative meetings, dialogue tables

Non-compliance for not reporting cultural findings

- Notify INAH in case of any finding so that it can carry out the work determined by INAH.

RIGHT TO MOVE FREELY



Affectations to vehicular traffic on local roads

- Construction of a detour to avoid heavy traffic through the town of Santa Maria
- Calendar of activities to minimize the impact on residents
- Implementation of an alternate roadway while construction of the bypass is underway

RIGHT TO SAFETY



Disturbance of the social order

- Contracting with commitments to appropriate behavior within communities

RIGHT TO A LIFE FREE OF VIOLENCE



Sexual harassment of women in communities

- Contracting with commitments and sanctions for gender-based violence; induction courses for personnel and suppliers on gender-based violence.

RIGHT TO CULTURE



Disrespectful treatment of cultural values

- Ethics and conduct training plan
- Induction courses for personnel and suppliers on the respectful treatment of the cultural values of the local population.

RIGHT TO PARTICIPATE



Lack of communication between companies and communities

- Strengthening relationships with communities
- Presentation of the areas of contact with the communities, explaining their function and means of contact in each community.

RIGHT TO PROPERTY



Negative perception for acquisition of land that is needed

- Appraisals of the land required, and negotiations that contemplate payments for goods destined to the land.
- Transparent negotiations, with disclosure of their rights and obligations to owners and the scope of the negotiation agreement

RIGHT TO DEVELOPMENT



Impact on subsistence agriculture and livestock farming

- Reforestation campaigns
- Promotion of improvements in agricultural and livestock production through the use of environmentally friendly technologies.

Social and economic inequality in the affected area

- Social investment that generates benefits for the communities and strengthens local productivity from the economic point of view.

RIGHT TO QUALITY UTILITIES



Competition for utilities between communities and foreign workers

- Support to state and municipal authorities in utilities to contribute to their improvement.
- Training and awareness of personnel, contractors and subcontractors on flora and fauna protection, waste management, efficient water use, etc.

RIGHT TO SUSTAINABLE DEVELOPMENT, CONSERVATION AND CLIMATE CHANGE



Impacts on sustainable development and climate change

- Control of atmospheric emissions and soil conservation and protection
- Protection of water resources and rehabilitation of degraded areas.

RIGHT TO BIODIVERSITY



Decrease in biodiversity

- Rescue and relocation of flora and fauna
- Training and awareness of personnel, contractors and subcontractors on flora and fauna protection, waste management, efficient water use, etc.

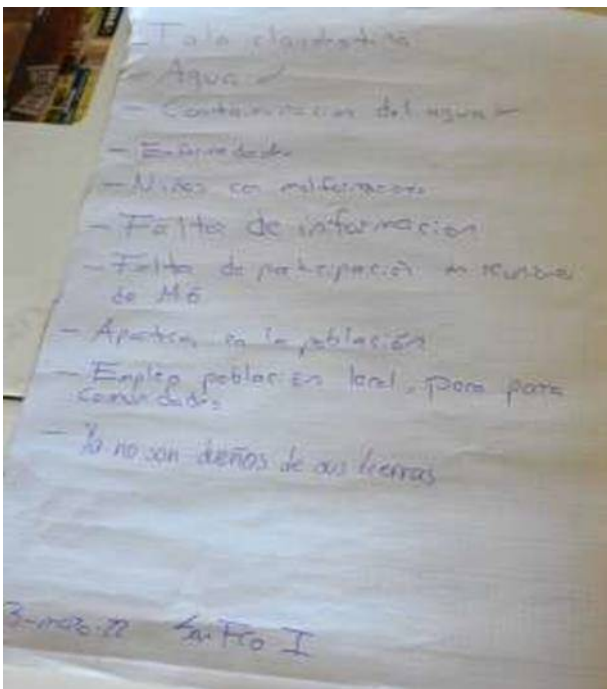
There are 16 impact scenarios that would be most likely to occur corresponding to impacts that could be caused by the Project, so having measures in place to either prevent or repair the negative consequences corresponds to respecting the human rights of rights holders in the Project's area of influence. There are 14 impact scenarios that could be cumulative, because in the municipality of Ixtacamaxtitlan there are real conditions that generate impacts to the inhabitants, and in this sense, the Project could contribute by accumulation, with its activities; therefore, it is required to have measures to avoid them to prevent such contribution. Finally, there are 4 impact scenarios with which the Project would be directly linked due to its commercial and service relationships.

The above impacts are mostly identified in the direct area of impact, which includes the communities of Santa Maria Zotoltepec, Ixtacamaxtitlan, Loma Larga, Zacatepec, and the ejido Santa Maria Zotoltepec. As can be seen in the HRIA, the impacts identified in the communities in the indirect area are fewer in number than those in the direct area.

The result of the HRIA concludes that the impacts identified, given the early stage of the project, can be avoided or mitigated through actions that translate into plans and programs, which in turn will be aligned with the company's Human Rights Policy. The necessary time is available for their design and implementation, and thus the Project is able to avoid their occurrence or, alternatively, reduce the magnitude of the impact so that compensation is not required.

Finally, corporate due diligence is about carrying out "actions of care, prevention, mitigation and control (of risks) that must be observed by companies in any productive sector, internally or vis-à-vis third parties, in each and every stage of production of goods and/or services [...] to avoid human rights violations [and] that these actions are communicated transparently and in good faith to the people who may be impacted or susceptible to be affected by them".¹⁰ In this way, this HRIA will serve not only to identify possible risks, but also to ensure that the company can count on these actions and carry them out in order to **prevent, mitigate and control possible impacts, during all its productive stages, and extending the care for the respect of human rights to all its business relationships (business partners, entities and other companies that make up its value chain).**

The HRIA, as a tool, identifies, but also helps to manage potential risks and only in the event of their occurrence, their consequences should be controlled and mechanisms for redress should be in place.



It is a matter of anticipating risk, and to do so, prevention, control and repair measures must be in place. And in all this process, people, as rights holders, are a fundamental part, since the company, as duty bearer, in the words of the Guiding Principles, is expected to assume its commitment and responsibility to inform duty bearers of these actions. For this purpose, communication and transparency are fundamental, in the understanding that they will be constant, as this is directly proportional to the life of a project, in this case, the Ixtaca Project, which includes an adequate relationship between the parties: the duty holder, the rights holders and all those with an interest (other stakeholders).

A complex but necessary situation within the due diligence corporate processes, is to take information to all human rights holders in the local scenario of the Ixtaca Project, the company has the responsibility to open up the information and make it available to

everyone, whether they are communities in the affected area or outside of it, civil organizations or

¹⁰ CNDH. (2019). General Recommendation no. 37. On the respect and observance of human rights in the activities of companies. Retrieved February 2023 from https://www.cndh.org.mx/sites/default/files/documentos/2019-07/RecGral_037.pdf

others, and at the local, regional, national and even international level. In all this, the HRIA, as shown in Figure 1. of this summary, is the second step in corporate due diligence; the following steps require the company to provide continuity through risk management and information to stakeholders. This is why we speak of a continuous process, actions that are repeated cyclically, so that a **permanent invitation to participate** is essential **to ensure inclusion and dialogue among all stakeholders**, provided that it is also about listening to everything that these stakeholders need to express or give their opinion, which requires an open and continuous process of **interaction and participation**.

