# PRESERVING THE AMAZONIAN HERITAGE THROUGH SUSTAINABLE MINING

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CASA EDITORA DEL POLO

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The Ecuadorian State faces the critical challenge of recognizing and respecting the territorial rights of the Shuar people. This action is essential to ensure their inclusion in decisions that affect their future. The Shuar are one of the most essential Indigenous communities in the country and have experienced the arrival of mining in various ways. At the same time, some have opted for active resistance, and others have conditionally accepted mining.

Mining has produced positive effects in specific Shuar communities, such as Warints and Yawi, where improvements in infrastructure and essential services have been observed. However, acceptance of mining has not been total or without conditions, which reflects the complexity and diversity of opinions within the Shuar people.
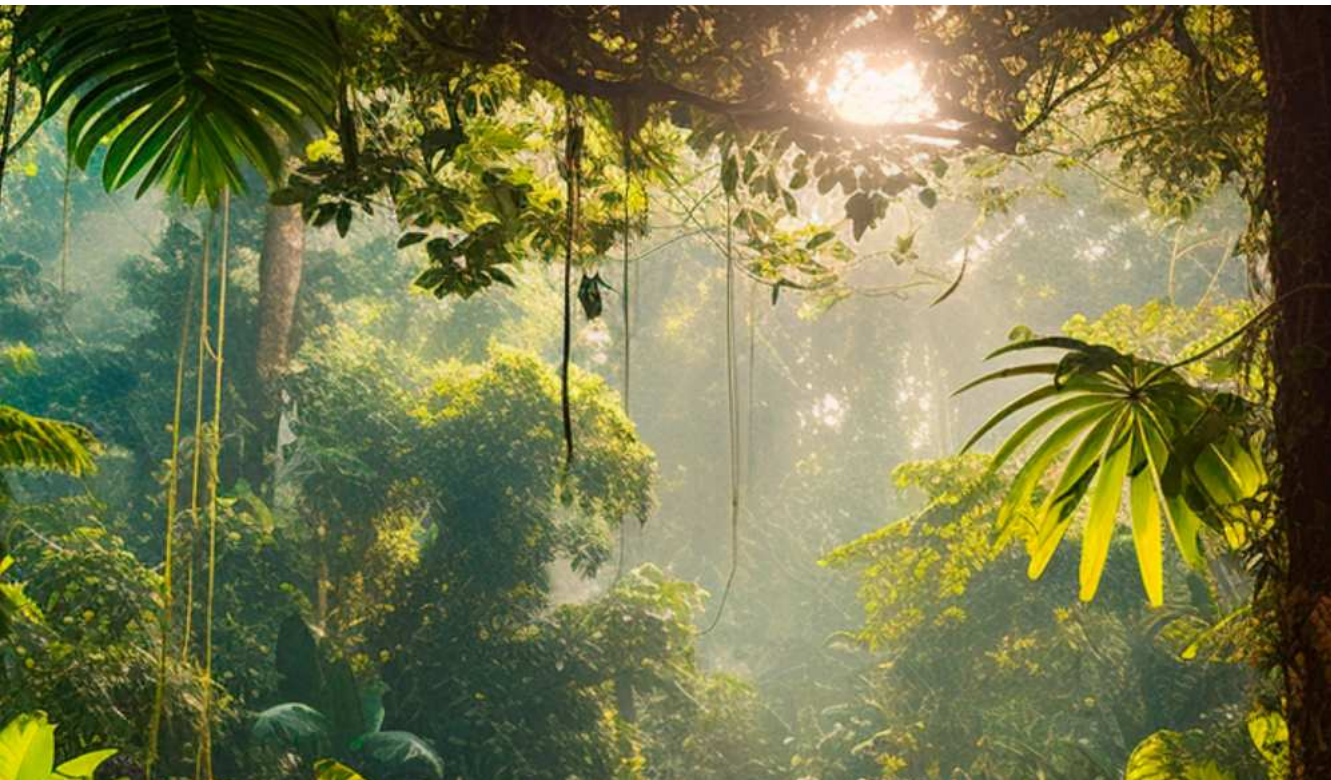
A fundamental aspect of managing mining and its impact on indigenous communities is the close collaboration between researchers and participants. This approach promotes equity, ethics, and relevance in research, ensuring that the voices of the Shuar are heard and respected.

For mining to be successful and sustainable, corporations must deeply respect Indigenous rights and culture. In addition, sustainable environmental practices that protect the natural environment and ensure the long-term well-being of communities must be implemented.

This book explores the dynamics between the territorial rights of the Shuar people, the impact of mining, and the importance of collaborative and ethical research. Through detailed analysis, it highlights the Shuar's experiences and perspectives, offering a comprehensive overview of the challenges and opportunities of implementing sustainable mining that respects indigenous rights in Morona Santiago.

# CHAPTER I

## NATIONAL AND REGIONAL CONTEXT

**Figure1.** Ecuador's indigenous nationalities



Source: (http://conaie.org/, 2014)

## 1.1. Introduction

Preserving the Amazon's heritage through sustainable mining is a complex issue that requires a trade-off between economic development and ecological conservation. The Amazon Rainforest holds countless species and plays a significant role in regulating the earth's climate. Nevertheless, this area also has vast mineral resources, crucial for economic development.

Several strategies could help to attain sustainable mining in the Amazon. The industry should adopt measures to minimize environmental impacts caused by mining activities. It entails reducing water and air pollution, adopting energy-efficient technologies, and implementing robust waste management systems.

Furthermore, it is essential to ensure that local communities benefit from mining activities, especially creating new jobs. Investing in

infrastructure and instituting revenue-sharing arrangements are also vital steps towards the community benefits from a mine's operation. To establish protected areas and enforce environmental regulations, it is crucial to involve local people in the decision-making processes on mining operations to get good returns from their natural resources, which ensures sustainability and inclusivity in the sector.

For instance, the Amazon Rainforest is a unique and fragile ecosystem that must be preserved for future generations. It could involve creating protected areas, ensuring compliance with environmental regulations, and being responsible miners.

Preserving the Amazonian heritage through sustainable mining requires multiple techniques that encompass economic development and conservation. Implementing sustainable mining practices, investing in local communities, and safeguarding sensitive areas can build a mining industry beneficial to people and the environment.

## 1.2. The study area

### 1.2.1 Ecuador

Ecuador is in tropical South America, on the northwest coast. It has an area of 256,370 sq km and shares borders with Peru to the south, east, and west, while Colombia lies to the north. The Pacific Ocean stretches along its western side (Aguirre, 2020).

The Andes Mountain range crosses Ecuador from north to south, dividing it into four natural regions. The coastal region comprises rich plains, sedimentary basins, and lowlands. When moving inland, you will find the Sierra, characterized by towering Andean peaks, rugged highlands, and snow-capped mountains. Some rise as high as 6,268 meters above sea level, where vast valleys can be seen (Carrera, 2020).

Many people consider the Amazon rainforest the 'lungs of the planet.' It is a unique and biodiverse region. Numerous endemic species have inhabited its forests for thousands of years. Charles

Darwin was a remarkable scientist who developed his theory on evolution after seeing the wonders displayed by nature in the forest expand throughout the Amazon basin (Sevilla, 2016).

## Shuar Geographical Location

The Shuar people reside in the territories of Ecuador and Peru. In Ecuador, the Shuar live in various provinces, including Morona Santiago, Pastaza, Zamora Chinchipe, Sucumbíos, and Orellana. Additionally, they are present in Guayas and Esmeraldas. The Shuar currently asserts a claim to an area of 900,688 hectares. The 718,220-hectare legally accepted zone is currently in place, while the remaining area is held in reserve pending further acknowledgment. It could result in a situation where the land titleholder would end up with a mix of acknowledged and non-acknowledged hectares, collectively adding to each dime.

Estimates from 1998 suggest that the Shuar population may have reached approximately 110,000 individuals, distributed across approximately 668 communities.

The State has declared the creation of Sangay National Park within part of Shuar territory, which significantly overlaps with an existing reserve. Furthermore, the protected areas of the territories include Podocarpus National Park and Cuyabeno Fauna Reserve. (Conaie, 2024)

### 1.2.2. Warintz

Warintza is a town in the southeastern part of Ecuador, specifically in the province of Morona Santiago. It is located at an altitude of 1,397 meters and is near the localities of Loma Ghinkinaim and Banderas.

The region code assigned to Warintza is American/Western Europe, and it is situated at 984 meters above sea level. The coordinates of Warintza are provided in DMS format (degrees, minutes, seconds) and decimal degrees (-3.41139, -78.2608). Additionally, the UTM position of Warintza is RS02, and the Joint Operation Graphics reference is SA17-16.

**Figure. 2.** Warintza_Map



Source: (https://mapcarta.com/es/19866688)

**Table 1.** Warintza

| LATITUDE | -3,41139° or 3° 24' 41" south |
|---|---|
| ALTITUDE | 1.397 meters (4.583 feet) |
| LONGITUDE | -78,26083° or 78° 15' 39" west |
| OPEN LOCATION CODE | 6783HPQQ+CM |
| OPENSTREETMAP ID | Node 249417826 |
| OPENSTREETMAP CHARACTERISTIC | Place = locality |
| GEONAMES ID | 3760505 |

**Source:**(https://es.getamap.net/mapas/ecuador/morona-santiago/_warintza/)

**Figure. 3.** Warintza_Satellite map



Source: (https://mapcarta.com/es/19866688/Mapa)

In the middle of the Amazon jungle, a few kilometers from the Peruvian border. The journey to Warints involves a land and air transfer. Macas, the capital of Morona Santiago, is the starting point for boarding a light aircraft.

## 1.2.4 Yawi

Yawi is a residential area in San Antonio (Cab En San Antonio Centro), Limón Indanza Canton, Morona Santiago.

**Figure.** 4. Yawi_Map



Source: (https://mapcarta.com/es/N3456629049)
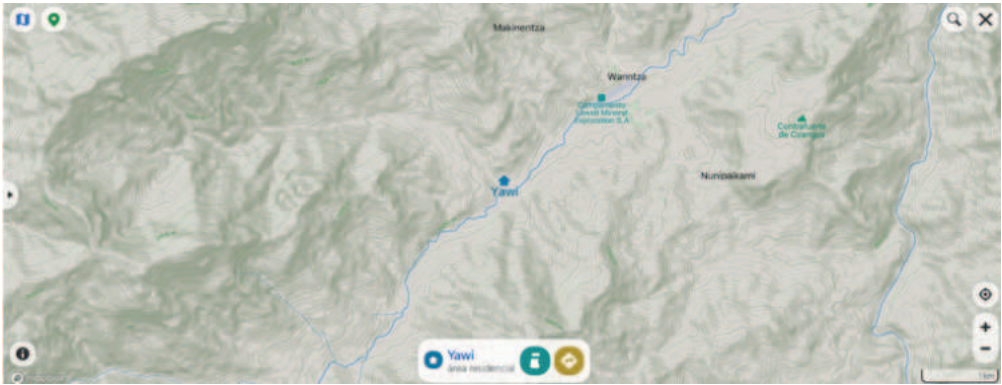
**Table 2** Yawi

| LATITUDE | -3,18176° or 3° 10' 54'' south |
|---|---|
| LONGITUDE | -78,27501° or 78° 16' 30'' west |
| OPEN LOCATION CODE | 6783RP9F+7X |
| OPENSTREETMAP ID | Way 837135102 |
| OPENSTREETMAP CHARACTERISTIC | Landuse=residential |

Source:(https://es.getamap.net/mapas/ecuador/morona-santiago/)

**Figure. 5.** Yawi_Satellite Map



Source: (https://mapcarta.com/es/N3456629049/Mapa)

Yawi is located southwest of the Warintza Health Center hospital near the Contrafuerte de Coangos peak.

## 1.3 Ethnic Groups in Ecuador

The Amazon rainforest, known as the largest tropical forest in the world, is a kind of ecosystem that objects to all kinds of weather and is the reason for being the world's perfect climatic regular. It is considered a preventer of the phenomenon of the water cycle in South America and is home to numerous Indigenous, farming, and local communities; in addition, it has a unique characteristic: it is rich in resources, and it is respected as part of the Indigenous people's culture. Eight countries, including Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela, and French Guiana, an overseas region of France, are involved in protecting the area, which requires significant dedication and effort. (Aguirre, 2020)

Amazon's groups, including the Indigenous, farming, and local communities, have been crucial in maintaining this precious ecosystem for many years through their invaluable knowledge. Therefore, any efforts to safeguard the Amazon rainforest must begin by acknowledging and appreciating these ancient knowledge systems. It is of utmost significance to allow society to play an active role in making decisions and to ensure that their human rights are fully secured according to the international human rights framework.

It is important to note that Brazil, Colombia, Ecuador, and Peru, the four most vulnerable Amazon countries, represent the major environmental threats of such a nature. This is particularly true for environmental defenders who advocate for the rights of indigenous women and farmers. Recognizing and addressing these risks must be prioritized to minimize them and protect both the Amazon rainforest and the individuals who defend it. (Nagar, 2021)

### 1.3.1  National and Regional Census

As per the National Institute of Statistics and Census (INEC), the VIII Population and VII Housing Census were conducted in 2022. The data collected, which was analyzed in the technical report by the end of 2024, uncovered some critical information:

The population in Ecuador is expected to amount to 16,938,986 inhabitants. Out of this, 51.3% are women, and 48.7% are men. Ecuadorians occupy mainly urban areas, with up to 63% of the population concentrated in cities. The Amazon region experienced the highest population growth, while the central-southern highlands also saw some growth. Approximately 37% of the population resides in rural areas.

Ecuador's demographic profile is still predominantly young, although to a lesser extent than in 2010. The country's median age is 29. When comparing the age and sex distribution from 2022 to 2010, there is a decrease in the younger population and an increase in young adults, indicating an aging process and the continuation of the population's "demographic bonus."

Ecuador is a diverse country with multiple ethnicities and cultures. Approximately 7.7% of the population identifies as Indigenous, the same proportion as Montubia. Additionally, 4.8% identify as Afro-Ecuadorian, 77.5% as mestizo, and 2.3% as white or other.

With a population exceeding 16 million inhabitants, Ecuador is a multiethnic and multicultural nation. The highlands region, including Pichincha, Chimborazo, and Imbabura, is home to over a third of the indigenous population. The coastal region, particularly

Esmeraldas and Guayas, has more than half of the population identifying as Afro-Ecuadorian. In Manabi, Guayas, and Los Rios, 93.6% of the population identifies as Montubia. The Amazon region has over 600,000 inhabitants, while the Galapagos Islands have a population of nearly 7,000. (Gob.ec, 2024)

In 2021, ESPOCH Morona Santiago Campus researchers interviewed native people in the Warintz and Yawi communities as part of a multidisciplinary research project. The results of this activity will be explained and shared, and they will be compared to national statistics published online. The data collected from the 2021 Population, Housing, and Resources Census conducted by the geology area of the Lowell company revealed that there were 96 families with a total of 471 individuals. In 2022, during the Population, Housing, and Productive Resources Census in the Warints Center community, 109 families with a total of 507 residents were recorded. It indicates a growth rate of 8% based on the population census.

**Figure. 6.** Warintz_Population growth
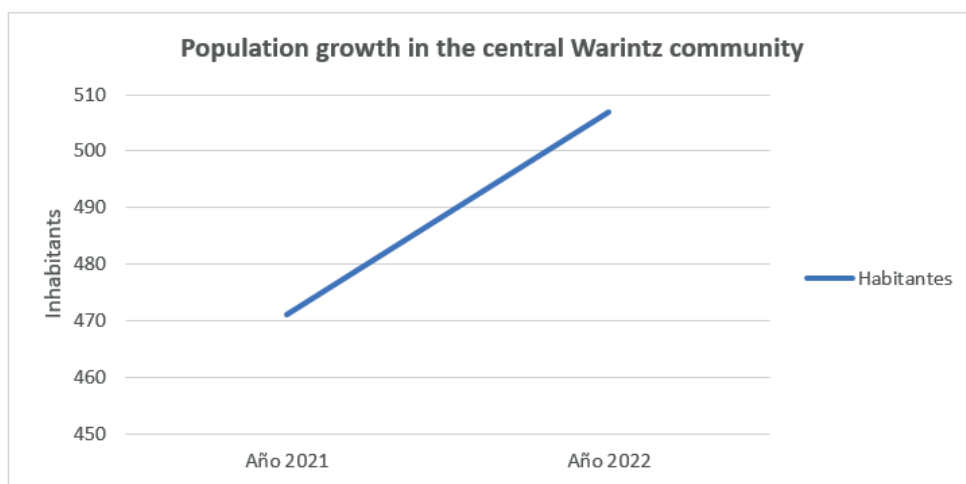


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

Contrary to the national findings, it appears that Warintz has a predominantly male population, accounting for 52% of the total population there.

Based on the self-identification results related to their culture and customs, it is evident that the Shuar population consists of 482 individuals, representing 99.2% of the total population.

**Table 3** Warintz_Auto-identification

| Auto identification | Population | % |
|---|---|---|
| Shuar | 482 | 99,2% |
| Achuar | 0 | 0,0% |
| Mestiza | 4 | 0,8% |
| **Total** | **486** | **100,0%** |

Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

According to the 2022 census, the community's demographic composition reveals a significant majority of over 99.2% identifying as Shuar, based on their cultural and customary affiliations. Following closely behind, the Mestizo(a) population accounts for 0.8% of the community. Hence, it is evident that the Shuar ethnic group predominantly exists within the community.

**Figure. 7.** Warintz_Autoidentification
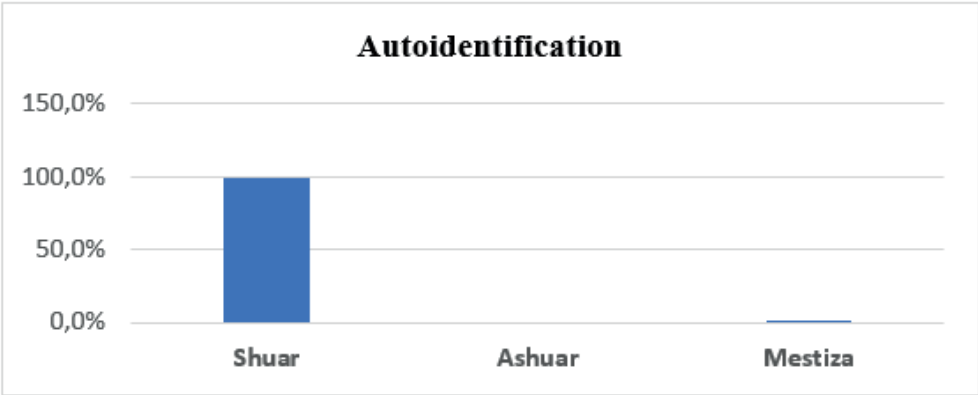


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

Based on the census data, the Shuar language is spoken by 98% of the population, while Spanish is spoken by the remaining 2%. This translates to 478 individuals speaking Shuar and 8 individuals speaking Spanish, reflecting the cultural customs within families.

**Figure. 8.** Warintz_Native Languages
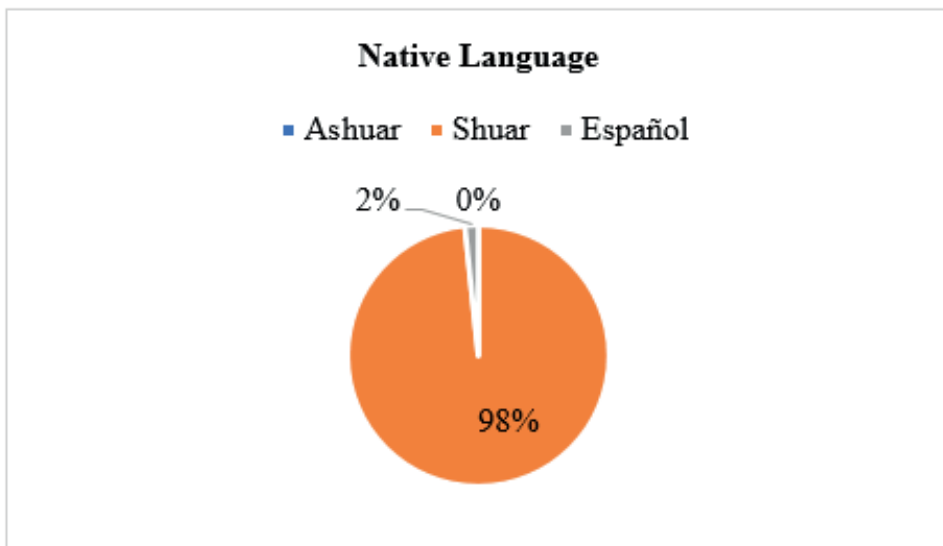


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

To establish a sense of identity, the community decided to embrace the Spanish language. Alongside the Shuar language, the community now speaks both languages, with 96% (467 inhabitants) being bilingual. Notably, most inhabitants speak both languages, while a small percentage—3% (14 inhabitants)—speak only the native language and 1% (5 inhabitants) speak solely Spanish.

**Figure. 9.** Warintz_Languages spoken at home



Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

However, the census results for the Yawi community revealed the following information. The population distribution based on gender in the Yawi community consists of 217 individuals, with 53% being male and 47% female. By examining the number of male and female inhabitants determined by the census, which are 115 and 102 respectively, we can analyze the gender composition of the population. These figures indicate a greater presence of males, highlighting the influence of masculinity.

**Figure.10.** Warintz_Gender
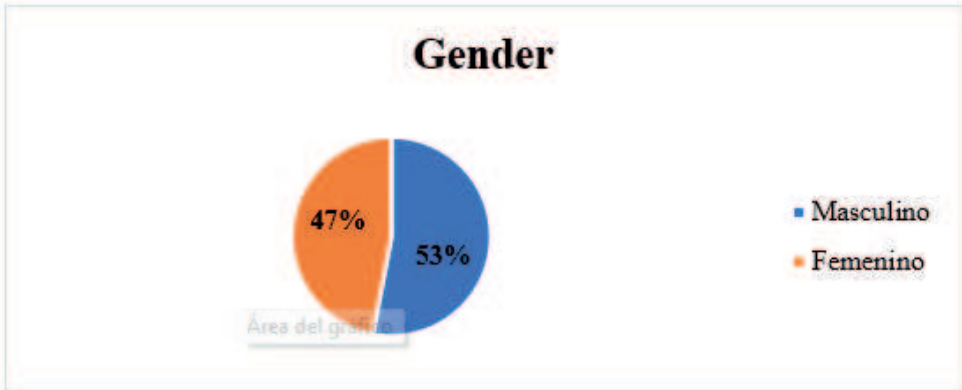


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

In both communities, males are the predominant gender, which is an intriguing fact that influences and may be attributed to various factors within the fundamental social framework of these two communities, in addition to their unique cultures and traditions. Both communities adhere to their own set of regulations and political hierarchies, yet they collectively recognize themselves as part of the Shuar ethnicity. The 2022 census data reveals that a significant portion of the population, accounting for 98.8% (168 individuals), self-identifies with the Shuar culture based on their cultural practices and customs. As a result, the Shuar culture holds sway in the community, with the Shuar culture and mestizo population making up only 0.6% (1 person) of the 170 residents in the Yawi community.

**Figure. 11.** Yawi_Autoidentification
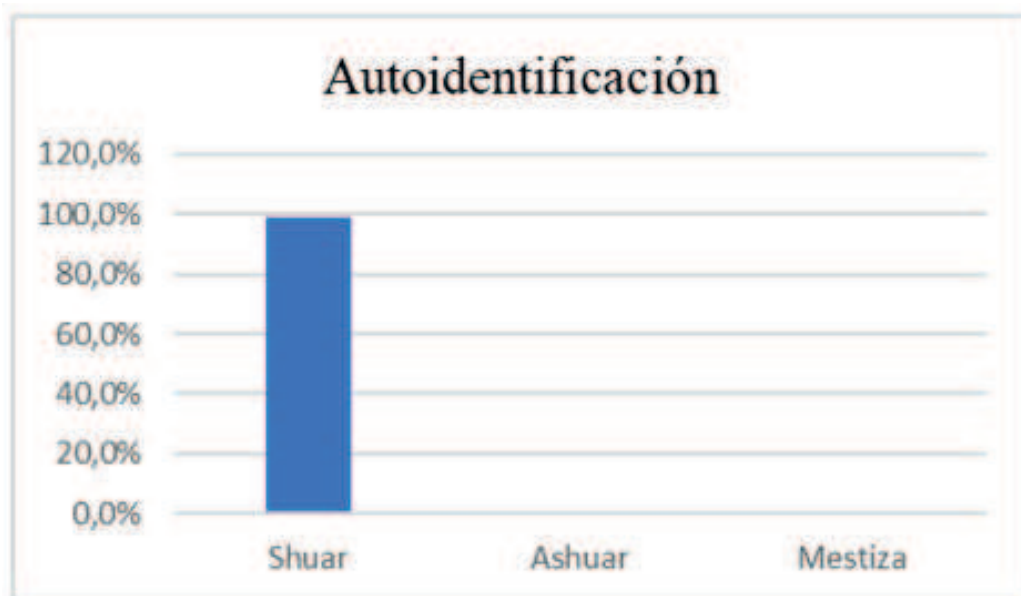


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

Similarly, with respect to language, the Yawi census reveals that the indigenous language continues to be upheld due to familial traditions. The findings indicate that 95% of the community converses in the Shuar language, while the remaining 5% communicate in Spanish.

**Figure. 12.** Yawi_Native Languages
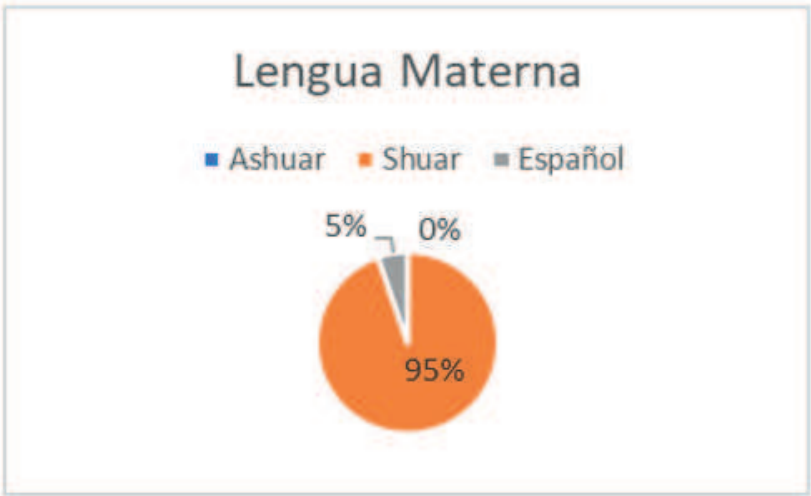


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

Due to necessity, the community embraced the Spanish language, resulting in a bilingual situation with a majority of 97% speaking both languages. Notably, a small portion of the population, precisely 3%, exclusively speaks the native language.

**Figure.13.** Yawi_Languages spoken at home



Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

## 1.3.2 Indigenous nationalities

Ecuador is divided into three continental regions, each housing 15 indigenous nationalities with distinct traditions and perspectives. The Huaorani, Achuar, Shuar, Cofán, Siona-Secoya, Shiwiar, and Záparo are among the well-known indigenous nationalities in the Amazon. The Tagaeri, who are related to the Huaorani, also reside in the area but have been designated as "intangible" by the State due to their desire for a secluded lifestyle.

Ecuador boasts a diverse population, including the highland Quichuas such as the Otavalos, Salasacas, Cañaris, and Saraguros. The Awa community resides in the northern part of the country, while the Chachis, Tsáchilas, and Huancavilcas inhabit the Pacific coast. Urban areas are home to mestizos, whites, and Afro-Ecuadorians, with significant rural-to-urban migration.

Ecuador's indigenous communities are integrated into the broader culture at varying degrees, although some still maintain their customs, particularly in the remote areas of the Pacha Basin. (Unicef, 2008)

Furthermore, there are two primary concentrations of Afro-Ecuadorian population in the country. One group resides on the north coast in the province of Esmeraldas, while the other is located in the Chota Valley, between Imbabura and Carchi. Afro-Ecuadorians can be found in all country regions, with a notable concentration in Esmeraldas and the northern highlands.

Most of Ecuador's population is mestizo, although some individuals in urban areas identify more strongly with their white/European cultural heritage. Additionally, there are smaller populations of mulattos, zambos, and immigrants from various countries and continents. (Embassyecuador.eu, 2024)

## 1.3.3 Historical Context of Shuar Ethnic Groups

The Shuar are an indigenous group in Ecuador with a rich cultural legacy and a protracted history of perseverance. They are found in parts of Peru and Colombia, as well as in the Amazon rainforest

in southeast Ecuador. During the 16th century, the Spanish colonists called them Jivaro. The Shuar have successfully preserved their 3000-year-old culture and customs despite centuries of colonization and exploitation.

The Shuar lived relatively isolated from the outside world until European settlers arrived. They had a strong spiritual bond with nature and were proficient in farming, hunting, and gathering. They developed an elaborate shamanic system to interact with these spirits and ask for their blessings because they believed each element of nature had a spirit. (Saint Juank, 2017)

For the Shuar, a significant turning point occurred with the arrival of Spanish colonists in the sixteenth century. The region's natural resources, including rubber and gold, were targets for Spanish conquest and exploitation. The Shuar, however, fought valiantly against the Spanish invasion and could hold onto their independence until the early 20th century. (Chacón Guzmán 2018)

The Shuar were forced to adjust to the changes brought about by globalization and modernization in the 20th century. Many Shuar people moved to cities in pursuit of work, but some decided to stay in their ancestral villages and maintain their traditional way of life. The Shuar have faced many difficulties, such as marginalization, discrimination, and land disputes. However, they have persisted in preserving their customs and culture, and as a result, they have contributed significantly to the ecological and cultural diversity of the Amazon region.

Many theories have been put forth to explain the Shuar peoples' origins, but their ancestry is still up for debate. According to a widely accepted theory, they are descended from prehistoric indigenous groups that lived in the Amazon region for thousands of years. These groups may have moved in search of new lands and resources from the Andean highlands of Ecuador and Peru. They established themselves in the Amazon and formed a unique culture and way of life by assimilating into the local surroundings.

According to another theory, the Chanka people, a formidable empire that formerly dominated the Andes in the fifteenth century, are the ancestors of the Shuar. This theory holds that following their defeat by the Inca Empire, the Chanka people fled to the Amazon. They eventually gave rise to the Shuar through intermarriages with the local indigenous populations over time. Despite these theories, much remains unknown about the history and ancestry of the Shuar, and their precise origins are still a mystery.

On the other hand, the Shuar have a rich cultural history firmly anchored in the Amazon. They still have an essential part to play in the region's ecological and cultural diversity. Studies on the Shuar people's culture, customs, and way of life have been undertaken in large numbers. The social structure, traditional knowledge, and cosmology of anthropologists have all been documented through intensive fieldwork. One noteworthy study is 'The Jivaro: People of the Sacred Waterfalls' by Michael J. Harner, which thoroughly examines Shuar shamanic rituals, mythology, and their close ties to the natural world.

Research conducted through ethnobotany has demonstrated the Shuar people's profound understanding of the flora and fauna of the Amazon. Michael J. provides evidence that ethnobotanists have studied their highly developed traditional medicine systems. The Shamanic Medicinal Plants of the Shuar of Eastern Ecuador by Balick et al. The complexity and singularity of the Shuar language, which has no relation to any other language in the world, have been the subject of linguistic studies. Researchers have studied the Shuar language's grammar and how it relates to other languages spoken in the area (Paati, 2012).

Studies on the environment have shown how closely connected the Shuar people are to the natural world. They have flourished in the Amazonian region thanks to their sustainable land use practices developed over thousands of years. Studies on the ecological effects of Shuar land use practices have been carried out (Luna Díaz, 2015).

All things considered, studies on the Shuar people have made a substantial contribution to our knowledge of their history, culture, and traditional knowledge. Additionally, they have been instrumental in increasing respect and knowledge of the biological and cultural diversity of the Amazon region.

Respected as one of the biggest and most powerful Indigenous communities in the Amazon, the Shuar people live in Ecuador, Peru, and Colombia. They are among the 14 nationalities that the Ecuadorian government has officially recognized as a separate ethnic group since 1998. The Federation of Shuar Centers of Ecuador, their autonomous government, represents their interests and advocates for their rights.

In the national and regional context, the Shuar people have encountered numerous obstacles despite their official recognition. Their well-being has been continuously threatened by marginalization, discrimination, and violence, including land disputes with mining and oil companies.

The Shuar community has taken a leading role in regional and national affairs, vigorously advocating for their rights and protecting their lands and resources. Moreover, they have been dedicated to enhancing the understanding and recognition of their cultural heritage and ancestral wisdom on a domestic and global scale.

The environment in which the Shuar people operate at a national and regional level is intricate, presenting a mix of challenges and prospects. Despite encountering formidable barriers due to economic and political influences, they persist in their efforts to secure increased acknowledgment, reverence, and safeguarding of their traditions, rights, and way of life (Morillo Trujillo, 2020).

## 1.3.4 Shuar people in Ecuador

During the colonial period in South America, the Shuar successfully resisted the Spanish conquistadors' attempts to subjugate them. In the 16th century, the Spanish established settlements and gold mines in the Zamora and Upano river valleys, hoping to exploit the

Shuar for labor and gold. However, the Shuar adamantly refused to comply with these demands. In a notable rebellion in the late 16th century, they launched an attack that destroyed one of the leading Spanish settlements.

Despite the influence of Christianity and the Catholic Church, the Shuar have maintained their traditional practices of shamanism. This has garnered attention from anthropologists and the public. Notably, ethnographic accounts such as Harner (2023) and anthropological studies like Rubenstein (2002) shed light on these practices. A specific ritual among the Shuar involves the initiation of young boys during puberty. They undergo a preparation period and are then taken to a sacred waterfall, where they consume hallucinogenic plants. This ritual is believed to imbue them with the power and strength of the waterfall, known as the Arútam, enabling them to become formidable warriors.

In the early 20th century, the Shuar culture experienced significant changes. Catholic Salesian missionaries, primarily of Italian origin, established missions in Shuar territory. Additionally, mestizos from the highlands of Ecuador migrated downstream along the rivers, settling in Shuar lands and establishing farms and cattle ranches. These influences marked a shift in Shuar society and its interactions with the outside world. During the 1930s, Salesian missionaries took the initiative to establish an educational institution in Bomboiza. This institution played a crucial role in educating the Shuar youth, allowing them to learn Spanish and acquire literacy skills. The Salesian linguists also contributed significantly by developing a written language for the Shuar, utilizing the standard Latin alphabet commonly used in Western European languages. They diligently compiled Shuar dictionaries and grammatical texts and even translated essential texts such as the Bible into the Shuar language.

In the present day, the Shuar communities reside in the densely populated regions of Morona-Santiago and Zamora-Chinchipe provinces, specifically in the valleys of the Upano and Zamora rivers. These areas now coexist with mestizo settlers who have established

themselves in the region for multiple generations. It is worth noting that the Shuar settlements possess collective land titles, ensuring their ownership and rights to their ancestral lands. Conversely, the mestizo settlers hold individual land titles, which grant them ownership over their respective plots of land.

### 1.3.5 Shuar Traditions

The Shuar community has a diverse cultural legacy encompassing numerous customs transmitted from generation to generation (Saant Juank, 2017). Here are a few illustrations of Shuar traditions:

Attire - By tradition, Shuar women don the "Karachi" while men wear a skirt known as "itip." This skirt, crafted from a canvas, features vertical lines in shades of purple, red, black, and white. The colors are derived from natural dyes obtained from vegetables. The skirt is wrapped around the waist and extends to the ankles, secured with a sash. In the past, the Shuar used to wear the Kamush, a garment fashioned from crushed tree bark.

Headhunting used to be a significant tradition among the Shuar, serving to safeguard their territory, exhibit courage, and attain spiritual strength. However, this practice is no longer observed by the Shuar community. On the other hand, the creation of shrunken heads, once a renowned Shuar practice, is now mostly abandoned. Nevertheless, a few Shuar individuals continue to craft shrunken heads as a form of traditional artwork. Additionally, the Shuar engage in ayahuasca ceremonies, incorporating the hallucinogenic plant into their shamanic rituals. These ceremonies enable them to connect with the spirit realm, acquire wisdom, and facilitate healing processes.

In Shuar tradition, marriages are arranged by the parents, and the bride and groom go through a series of rituals to demonstrate their readiness for marriage. The bride's family pays the groom's family a dowry, including clothing, food, and livestock.

Chicha is a traditional beverage that is highly significant in Shuar social gatherings. It is crafted by fermenting yucca or

maize, commemorating important events and fostering a sense of community among the Shuar people. These customs exemplify the rich tapestry of traditions that form an integral part of Shuar culture. These time-honored practices are deeply ingrained in the Shuar way of life, constituting their identity and heritage.

This study aims to illuminate and generate curiosity about remote and occasionally secluded communities. In doing so, it seeks to elucidate the census findings conducted in the Warintz and Yawi communities, which are the book's focal points and multidisciplinary project at ESPOCH Morona Santiago Campus.

Upon analyzing the number of individuals engaging in ancestral rites within families, it was determined that 13 out of every 100 individuals partake in such practices. This accounts for 59% of the total population, while 41% no longer engage in ancestral rites. Specifically, 287 individuals practice ancestral rites, and 199 individuals do not. Furthermore, categories were established based on affirmative responses regarding specific rites. The most practiced rite was fishing at 80.65%, followed by hunting at 67.74% and participating in Ayawasca and Shuar dance at 66.13%. The least practiced rites were Pinkiui and Anent, with a percentage of 30.65%.

**Figure. 14.** Warintz and Yawi_Ancestrals practices rituals
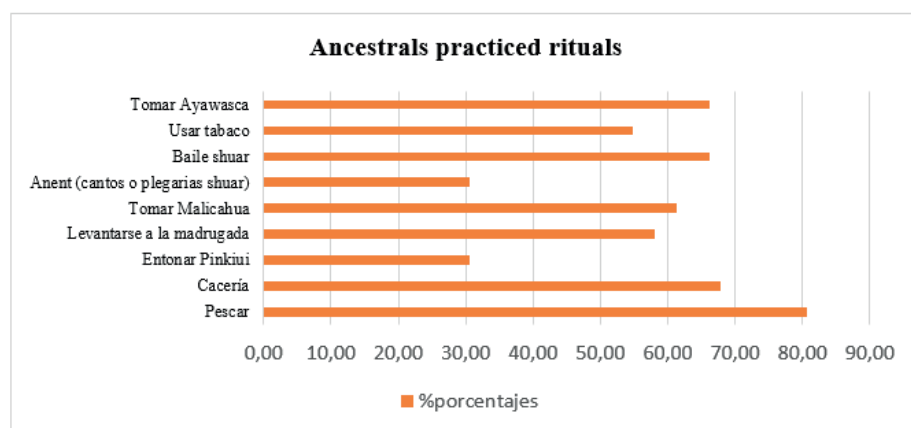


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

An analysis was conducted on the responses provided by families regarding the discontinued rites or traditions, revealing that the practices of "Tsantsa" and "Anent" have been abandoned, accounting for 90.48% of the responses. Additionally, sniffing tobacco was found to be no longer practiced by 76.19% of the families, while the celebration of the Chonta feast, family visits, and drinking chicha decreased to 66.67%.

**Figure. 15.** Yawi_Rituals that are no longer practiced
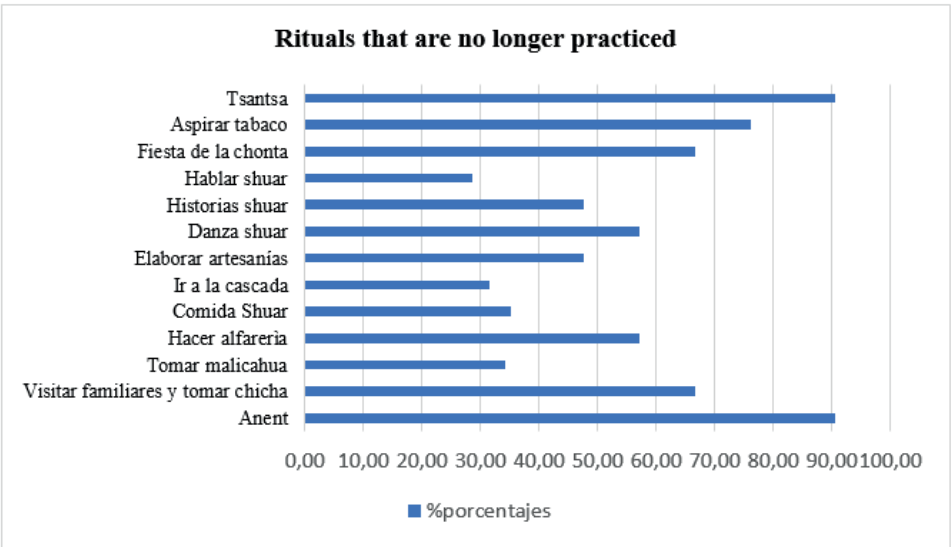


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

The Yawi community consists of individuals who follow ancestral rites, accounting for 61% of the population, while the remaining 39% do not partake in these traditional practices.

**Figure. 16** Ancestrals rituals



Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

Fishing is a widely embraced tradition among families, with an impressive 95.45% of households engaging in activities such as ayawaska, Shuar dance, early morning expeditions, and hunting. Additionally, 17 families partake in tobacco usage and malicahua consumption, while 15 families enjoy singing the Pinkiui.

**Figure. 17** Ancestrals Rituals



Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

An average of 23 families no longer observe the pottery tradition. 22 families are interested in reviving this tradition, 25 families have stopped the practice of Anent and sniffing tobacco, and 31 families no longer practice tsantsa.

**Figure. 18.** Rituals that are no longer practiced
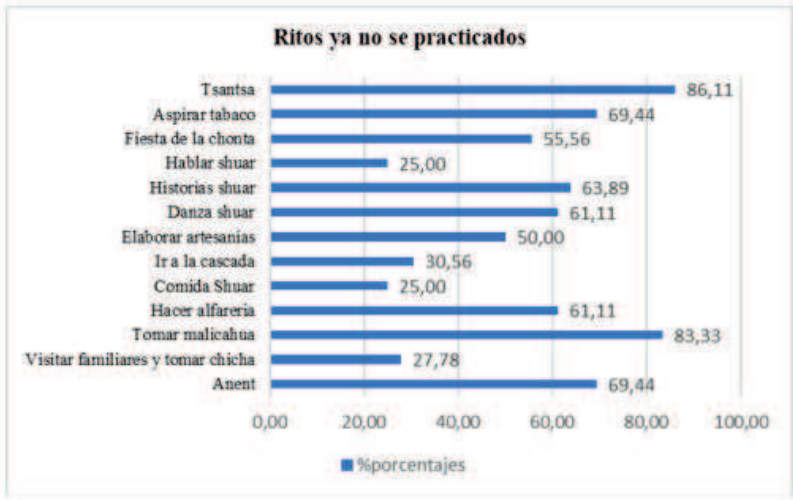


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

**1.3.6 Origins of Shuar Language**

Juan Aij was born in Guayaquil in 1978 and dedicated his life to art and painting because he wanted to express the identity, tradition, and culture of indigenous people in Ecuador. His vibrant and colorful paintings

He focused his vibrant and colorful painting around the Shuar people and other native societies in the Amazon rainforest, capturing their customs, rituals, and traditions. Art galleries and museums in Ecuador, the United States, and Spain have proudly showcased Aij's artwork. (Paati, 2012)

His vocation to protect the rights of Indigenous people has led him to promote relevant cultural projects with a substantial social impact in the country and internationally. He documents and preserves their rich cultural heritage through collaboration with these communities.

Juan Aij's work significantly contributes to the representation and appreciation of indigenous cultures and traditions, not only in Ecuador but also globally.

He discusses various theories on the origins of the Shuar people in his book "Pueblo de Fuertes". He suggests that there are similarities between the Shuar language and Japanese, based on linguistic analysis: "After examining the abundant material collected, it seems that one can conclude that many Jivaroan words are common with the Japanese language: furthermore, some grammatical rules seem to have strong points of contact with the mentioned language." (Crespi, 1926 p. 239). This idea is further reinforced in Juan Aij's 1995 publication "Pueblo de Fuertes", which is highly regarded in bilingual schools within Shuar communities.

The Shuar language, also called "Shuar Chicham," belongs to the Jivaroan language family, which is a subdivision of the broader Huitotoan language family, spoken in Ecuador, Colombia, and Perú.

The precise origins of the Shuar language remain a subject of debate among linguists and scholars. However, it is widely believed that the Shuar people migrated from the Andean highlands to the Amazonian lowlands approximately 500-1,000 years ago. Along with their migration, they brought their language and culture. Throughout the years, the Shuar language has undergone evolution and developed distinct dialects and variations, influenced by interactions with neighboring languages and cultures.

The Shuar language, a blend of Arawak and Puruhá Mochica languages, is still actively used by thousands of individuals in Ecuador and Peru. Various initiatives are underway to safeguard and advance the language through educational and cultural initiatives. The preservation of the Shuar language is essential for upholding the distinct cultural heritage and identity of the Shuar people. (Miroslav, 2017)

The Arawak languages exhibit several common characteristics,

including a straightforward sound system, basic grammar with noun classifiers, and minimal inflection. Nevertheless, notable distinctions exist among the various Arawak languages, influenced by the speakers' regional and cultural backgrounds.

Numerous Arawak languages, like Taino and Lokono, have become extinct or are at risk, with only a small number of speakers remaining. Garifuna and Palikur languages continue to be actively spoken by thousands of communities nowadays.

The Arawak language family has played a significant role in the history and culture of indigenous peoples in the Americas, prompting efforts to preserve and promote their usage through educational and cultural initiatives.

## 1.3.6.1 The Jivaro and the Karibs

The Jivaro or Shuar community is historically studied and valued for its unique culture, traditions, and way of life.

The Jivaro people, also known as the Shuar, are an indigenous group living in the Amazon rainforest of Ecuador and Peru. Originally called "jíbaros," a term derived from the word "shuar" meaning "man," they can also be seen as a blend of the Arawak language and other languages from Andean descendants. This group is further divided into Shuar, Achuar, Awarunas, and Wampis (Almeida, 1995, p. 52).

They are experts in hunting, farming, and crafts while conserving a strong spiritual bond with the Pachamama. Headhunting, which is not practiced anymore, is also a notorious characteristic they are distinguished for.

The Jivaro people have encountered numerous obstacles throughout history, such as colonization, exploitation, and loss of their ancestral lands and resources. Despite these hardships, they have preserved their distinct cultural heritage and actively advocated for their rights and the preservation of their environment.

Shuar Chicham is the primary language of Jivaro, and the

Amazon indigenous communities also speak it in Ecuador, Perù, and Colombia.

It is determined by further research that the Shuar community has descended from the Karibs, an indigenous group from the Caribbean islands and parts of northern South America. The Karibs probably have migrated from the Orinoco River basin in the territory of Venezuela, spreading across the Caribbean islands. The Karibs were professional fishermen and navigators, experts in maritime tasks, and they traveled the Caribbean. Additionally, they were renowned as fierce warriors and were associated with cannibalistic practices. (Estevez, 2019)

Currently, the Karib people have largely integrated into the wider societies of the Caribbean and South America. Nevertheless, there are still pockets of Karib descendants residing in countries like Dominica, Saint Vincent and the Grenadines, and Guyana. While the Karib language, also known as Kalina, is still spoken by some of these communities, it is at risk of extinction. According to Vega (1958:87), during their migrations, groups of Karibes settled in various parts of the Amazon basin, resembling lagoons left behind after river floods.

## 1.4   WARINTZ AND YAWI

The Shuar people have unique cultural traditions and community centers, with "Warints" and "Yawi" being names linked to specific Shuar centers. Warints are commonly known as Shuar cultural centers or communal houses, serving as gathering spots for various cultural activities, discussions, ceremonies, and community events.

These centers are crucial in preserving and promoting Shuar traditions, language, and customs. Yawi, on the other hand, refers to Shuar community centers where important communal activities like decision-making processes, social events, and cultural celebrations take place. The Yawi center acts as a focal point for social cohesion and communication within the Shuar community.

Both the Warints and Yawi centers are essential in Shuar society,

providing spaces for cultural transmission, community organization, and the reinforcement of Shuar identity.

It's worth noting that specific details, practices, or traditions associated with these centers may vary among different Shuar communities and regions due to the rich cultural heritage and diverse expressions of Shuar traditions. For a deeper understanding of the Warints and Yawi centers, consulting firsthand accounts, and publications, or engaging directly with the Shuar community or organizations working with the Shuar people would be beneficial. (Sacher, 2016)

### 1.4.5 Warintz

The Shuar people have a solid connection to their ancestral lands and have participated in several movements and conflicts to defend their rights to their cultural background. The industrial activities that have had a significant impact on their communities' environment and social fabric, like mining and oil extraction, have presented challenges for them. (Tupakia, 2013)

'Warintza Central Copper Project' is developed in the province of Zamora-Chinchipe in southeast Ecuador. (Corral, 2016)

Solaris Resources Inc., a Canadian mining company, operated in the Warintza project. The project area is known to have substantial copper mineralization, and the company has conducted exploration activities to assess the deposit's size and viability for future mining operations.

The Warintza Central Copper Mine is in an area with prevalent copper mineralization. The project aims to extract copper ore and refine it into copper concentrates. The deposits' most well-known feature is large-scale high-grade copper resources.

The project has gone through several phases of development and investigation to determine the deposits' size and economic viability. Assessing the viability of mining operations involves resource estimation, drilling, and feasibility studies.

The project has attracted interest due to its potential economic advantages, including the creation of jobs and income. However, local communities and environmental activists have also voiced opposition and concerns about it. Potential effects on the environment, managing water resources, and safeguarding indigenous lands and communities are among the issues brought up.

Like any other mining project, the Warintza project has undergone environmental impact assessments and consultation procedures. These procedures involve involving local communities and stakeholders in resolving issues, maintaining transparency, and abiding by applicable laws and regulations.

Like every mining project, the Warintza Central Copper Mine has had proponents and opponents. Mine supporters contend that by generating income and jobs, it has the potential to improve both the local and national economies. They draw attention to the financial advantages and prospective advantages for nearby communities. However, some local communities' indigenous groups and environmental activists have concerns and are against the proposal.

Potential environmental effects managing water resources safeguarding Indigenous lands and cultural heritage and the project's overall sustainability are a few of the issues. As part of the project's development, environmental impact assessments, stakeholder consultations, and regulatory processes are usually carried out to address these concerns and guarantee adherence to social and environmental regulations.

## 1.4.6 Yawi

Yawi is a word that in the Shuar language means 'saladero', or space where animals drink water. The indigenous language's pronunciation is not as it is read, but they replace the w with the v to make it sound "Yavi".

The genesis of the Yawi community is a matter of historical record.

At the outset, a group of Warints residents resolved to depart from their original community and establish a new one in the foothills of the mountain. Marcelo Wachapá assumed the leader role in forming this new settlement.

A vacant lot was identified approximately 30- minute' walk along the slopes of the mountain range, adjacent to the Warints River. It was established that the territory had not been allotted to anyone, and on 26 August 2017, Marcelo founded the community. The name chosen for the community was Yawi, in honor of the saladero where the animals to be hunted were found. "That's our culture, hunting and fishing. Without that we cannot live," explains the community's Síndico (president).

The residents of Yawi dedicated a year to building all the houses, a process that has not yet been completed. Wooden structures on the land are still in the initial stages of construction.

Before the establishment of the mining company Solaris Resources, the houses' roofs were constructed using thatch and a cone-shaped design. Some of these houses still retain this architectural style, while the majority have been replaced with zinc sheets donated by a foreign company. (Sittiprapaporn, 2019)

Yawi is part of Solaris Resources' strategic alliance with the communities that authorized its exploration of copper in their ancestral territories. This agreement has enabled local inhabitants to work. They work in the exploration camp on a rotating basis and receive a weekly salary. They use this money to purchase goods in the city and invest in animal husbandry.

Most families keep chickens for their consumption. The community also cultivates cassava, Chinese potatoes, and ginger. They harvest medicinal plants to treat various ailments. Consequently, no masks were used in Yawi to prevent the spread of the coronavirus.

The ancestral wisdom old women possess is facilitated by the following words: "Our grandmother is 100 years old, and she teaches us not to get sick. We get advice from her because she knows more

than we do. Because of her, we are alive." Marcelo's statement confirmed the lifestyle and natural prevention of diseases in the community.

Although Shuar culture is traditionally patriarchal, with women assuming the role of child caretakers, in this younger community, women have learned to assert their voices and demonstrate their empowerment. Moreover, in recent years, they have begun to express their opinions more freely as commented by Lowell company personnel. At a community assembly, a man attempted to silence his wife, but she did not remain silent and replied that she could speak and express her opinion freely. This was an unprecedented occurrence, influenced by the cultural change that the mining company is bringing to this area as part of its development model.

The population of Yawi is 217, with 115 (53%) being male and 102 (47%) being female; at the same time, individuals from other areas have begun to join the community, inspired by the remarkable growth achieved by a small group of dedicated individuals.

Most of the inhabitants are family members, and unlike Warints, this place is quieter due to its smaller population.

Most of the young people are dedicated to agriculture and hunting. Living in the mountains teaches them to be predisposed to activities that in the city are from a different perspective. For example, the men do not give up studying out of laziness, but because their mentality and culture are different. However, members of the community emphasize that this must change, they want to encourage young people to study to grow the community, and Nunkuich Cecilia Petsain Tsuink, a young girl from Warintz who was able to achieve her academic goals with determination, effort, and perseverance and graduated from the Polytechnic School of Chimborazo, Morona Santiago Campus with a degree in Accounting and Auditing in February 2023. Her success serves as a model of progress and hope for the younger generation of both communities.

# CHAPTER II

## THE SHUAR ETHNIC GROUP FACED ECUADORIAN MINING

**Figure. 19** CONAIE



Source: (http://conaie.org/, 2014)

## 2.1 Historical Introduction to State Intervention in Amazonia

The Amazon, one of the planet's most diverse and extensive regions, has been the object of state intervention from colonial times. This intervention has taken many forms, from natural resource exploitation to sustainable development and environmental protection policies. This historical overview examines state intervention's main phases and characteristics in the Amazon, highlighting policy changes and social, economic, and ecological impacts. (STCTEA, 2022)

### 2.1.1 Brief Summary of State Intervention

Colonial and Postcolonial Period. Sixteenth to nineteenth centuries

During the colonial period, the Amazon was primarily a source of natural resources for the European powers. The extraction of rubber, gold, and other resources was central to the region's economy, driven by indigenous labor, often in exploitative conditions. With the independence of South American countries in the 19th century, national states began to consolidate their control over these territories, envisioning the Amazon as a potential source of wealth and development, a beacon of hope for the future (Fontaine,

2006).

## The Rubber Boom (1880-1912)

The rubber boom of the late 19th and early 20th centuries marked a period of intense economic exploitation in the Amazon. National governments, particularly in Brazil and Peru, facilitated the colonization and exploitation of rubber to meet global demand. An influx of migrants marked this period, as did the development of new infrastructure and the exploitation of indigenous populations, which had severe social and demographic consequences (De la Rosa, 2004).

## Modernization and Development (1930-1980)

## Integration and Colonization Policies

Projects such as constructing the Trans-Amazonian Highway in Brazil and colonization programs in Peru and Bolivia were not just local initiatives. They were part of a global effort, often supported by international agencies, to integrate the region into national economies, promoting agriculture and human settlement. These policies were intended to foster the region's economic development and 'modernization', marking a significant chapter in Latin America's global engagement. (Campaña, 2021)

## Environmental and Social Impact

The environmental and social impact of colonization and intensive development policies has been significant. These policies have resulted in the loss of vast amounts of forest cover, the destruction of biodiversity, and conflicts with indigenous communities. The expansion of logging and mining, along with the expansion of agriculture and cattle ranching, has caused severe environmental damage. At the social level, these policies have often ignored the rights and needs of indigenous populations, resulting in forced displacement and land conflicts. (Paz, 2022).

## Consultation on Conservation and Sustainable Development (1980 - present)

In the 1980s, state intervention in the Amazon focused more on conservation and sustainable development. The growing global concern for the environment and the pressure from non-governmental organizations and indigenous communities led to the implementation of more balanced policies that seek to preserve biodiversity and ensure the rights of indigenous peoples (Para la Biodiversidad, P. N. F., Protegidas, Á., & de Colombia, P. N. N. N., 2016).

Today, governments in Amazonia are grappling with the persistent conflict between economic development and environmental preservation. Despite efforts such as establishing sanctuaries, recognizing native land rights, and improving development strategies, the pressure to exploit the region's resources, particularly from industries like mining, agriculture, and energy, remains high (Sanchez et al., 2019).

The state's intervention in Amazonia has gone through several stages, from colonial exploitation to current sustainable development policies. These phases have cumulatively impacted the region, and it will never be able to heal in terms of the environment, community, and economy. History is vital to dealing with current and future issues inside Amazonia, maintaining a balance between development and conservation. This journey of history provides a powerful way to understand how state policies and decisions have shaped the Amazon. In addition, it gives a chance to think about.

### 2.1.2 Historical Impact on the Shuar Population

The Amazon, a region of global significance due to its vast tropical forests, rich natural resources, and a rich tapestry of diverse indigenous communities, has always been of interest to governments and companies worldwide. This interest has led to significant state intervention, which has had a profound impact on the Shuar population, one of the indigenous communities that call the Ecuadorian Amazon home.

Since Spanish colonization in the 16th century, the Amazon has been subject to various forms of state intervention, including exploration, conquest, and natural resource extraction. However, in the 20th century, the Ecuadorian state began to exercise more direct control over the region as new natural resources, such as oil and natural gas, were discovered and exploited.

State intervention in the Ecuadorian Amazon has profoundly impacted the Shuar people. Their territory and natural resources have been subjected to increasing exploitation by foreign and national companies. The construction of roads, logging, and the extraction of oil and natural gas have led to the destruction of large tracts of forest and the disruption of the Shuar's lives and culture.

State intervention has also led to conflict and violence in the region. Many Shuars have opposed the exploitation of their lands and natural resources and have fought to preserve their territory and culture. This situation has led to clashes with law enforcement and extractive companies and has resulted in the death and detention of many Shuars.

In summary, state intervention in the Amazon has had a significant impact on the Shuar population, including loss of territory and natural resources, forced assimilation into the dominant culture, and violence and conflict. The Ecuadorian state and extractive companies must recognize and respect the Shuar's rights and collaborate to preserve their territory and culture (Martínez, 2007).

## 2.2 Capitalist Modernization Processes and State Colonization

### 2.2.1 Definition and Contextualization

### Capitalist Modernization in Ecuador

The process of capitalist modernization in Ecuador commenced at the end of the 19th century, coinciding with the cocoa boom. This period saw significant economic, social, and political changes in the country. The introduction of large-scale cocoa cultivation led to a transformation of the agrarian sector, with a concentration of land ownership in the hands of a landowning elite and the attraction

of Indigenous and Afro-descendant labor to the plantations.

Expanding the export sector and generating economic surpluses facilitated the expansion of trade and investment in infrastructure and urban development. Most of these investments were concentrated in Guayaquil, which became the country's economic center.

Nevertheless, capitalist modernization also had negative consequences. The exploitation of labor on cocoa plantations, the stark concentration of wealth in the hands of a minority, and dependence on the international market generated social inequalities, poverty, and social conflicts (Maiguashca Guevara, 2012).

## State Colonization in Ecuador

State colonization in Ecuador commenced in the colonial era with the arrival of the Spanish in the 16th century. Spanish conquest and colonization involved the imposition of political and cultural domination, the exploitation of natural resources, and the evangelization of the Indigenous population.

The Indigenous populations were subjected to a system of forced labor known as the mita, in which they were compelled to work in Spanish mines and farms. The indigenous populations were stripped of their lands, and European religion and culture were imposed on them.

Furthermore, the introduction of diseases brought by Europeans caused a drastic decrease in the indigenous population (Ayala Mora, 2008).

## The 19th and 20th centuries

Following independence from Spain in the 19th century, the Ecuadorian state expanded into the Amazon region. This process involved the military occupation of Indigenous territories, the exploitation of natural resources such as rubber and timber, and the colonization of the region with mestizos and settlers from other

areas of the country. The consequences of this colonization were devastating for the Indigenous populations and the environment. The combination of violence, disease, and loss of land resulted in a drastic decline in the indigenous population and considerable environmental degradation (Esvertit, 2012).

Capitalist modernization and state colonization have profoundly impacted Ecuador, shaping its economy, society, culture, and politics. Understanding these processes in their historical context and analyzing their positive and negative effects is essential to building a more just and sustainable future for the country.

### 2.2.2 Key Ethnographic Studies

The capitalist modernization and state colonization processes have left a profound imprint on Ecuador, influencing the country's social, cultural, economic, and political landscape. Many ethnographic studies have been conducted to examine these phenomena, offering invaluable insights into their impact on local communities.

**Studies on Capitalist Modernisation**

"Cacao and the Chagra: Economy and Society in Pre-Hispanic and Colonial Ecuador" by Mario Belshaw (1965): This study analyses the evolution of the traditional agricultural system of the chagra in the Ecuadorian Coast region from pre-Hispanic times to the rise of cacao cultivation in the 19th century. Belshaw describes how the introduction of large-scale cocoa transformed the production relations, social structure, and culture of the chagra communities (Abad et al., 2020).

"Petroleum and Development in Ecuador: A Case Study of the Amazon" by Alejandro Toledo (1985): Examines the impact of oil exploitation in the Ecuadorian Amazon from the perspective of the indigenous communities that inhabit the region. Toledo analyses how the oil industry has generated conflicts over land, environmental contamination, and labor exploitation (Chávez, 2014).

Blanca Muratorio's 1974 study "Migration and modernization in Ecuador: A study of rural-urban migration in the Sierra" analyses the causes and consequences of rural-urban migration in the Ecuadorian Sierra region during the country's period of capitalist modernization. Muratorio describes how migration has transformed family structures, gender relations, and cultural identities in rural communities (Sotomayor León et al., 2019).

**Studies on State Colonization:**

"Shuar: History and Resistance in the Ecuadorian Amazon" by Dolores Koenig (2000) analyzes the history of the Shuar people in the Ecuadorian Amazon, from pre-Columbian times to the present. Koenig describes the various strategies employed by the Shuar people to resist state colonization and exploitation of their natural resources, including cultural, political, and economic measures (Ortiz Batallas, 2022).

"Territory and conflict in the Ecuadorian Amazon: The case of the Achuar people" by Luis Davila (1997): This study examines the territorial conflicts between the Achuar people and the Ecuadorian state in the context of border expansion and natural resource exploitation in the Amazon. Davila analyses how the Achuar people have struggled to defend their ancestral lands and cultural autonomy (Carpentier, J. 2014).

"Indigenous Identities and Modernity in Ecuador: A Study of the Otavalo Community" by Catherine Walsh (1998) examines how the Otavalo Indigenous community has negotiated the tension between its traditional cultural identity and the pressures of modernization and globalization. Walsh describes the strategies that the Otavalo have developed to preserve their culture while participating in the market economy and national political life (Rueda & Ponce, 2017).

**Importance of Ethnographic Studies:**

These ethnographic studies offer a comprehensive and nuanced understanding of the processes of capitalist modernization and

state colonization in Ecuador, as perceived and experienced by those who have lived and interacted with these processes daily. The studies above permit us to:

To gain insight into the intricate nuances of Ecuadorian history. Ethnographic studies facilitate an understanding of how the processes of capitalist modernization and state colonization have interacted with Ecuador's indigenous cultures and societies, resulting in a complex and multifaceted history.

Recognize resistance and alternatives: Ethnographic studies document how local communities have resisted the negative impacts of these processes and have developed strategies to defend their rights and interests.

Building a more just future: The true power of ethnographic studies lies in their ability to delve into the experiences and perspectives of local communities. By doing so, these studies can significantly contribute to the creation of a more just and inclusive future for Ecuador (De Vidas, 2002).

Ethnographic studies are a fundamental tool for understanding capitalist modernization and state colonization in Ecuador. They provide us with a critical and reflective view of these processes from the perspective of the people who have lived and experienced their impacts on their own skin. By understanding these experiences, we can build a more just and sustainable future for Ecuador, where the rights and autonomy of local communities are respected.

## 2.3 The New Threat: The Mining-Energy District

### 2.3.1 Description of the Mining Megaproject

The Ecuadorian Mining Megaproject, or the Mirador Mining Project, is a large-scale copper and gold extraction project in the Zamora Chinchipe province in southeastern Ecuador. The project is being developed by the Chinese company ECSA (Ecuacorriente S.A.) and is expected to produce around 360,000 tons of copper and 415,000 ounces of gold per year over 25 years.

The mining project is in a region rich in natural resources and is estimated to contain copper and gold reserves worth around $100 billion. However, the project has also been controversial and criticized due to its environmental and social impact.

Regarding environmental impact, the mining project will require the removal of large tracts of forest and constructing infrastructure such as roads and power transmission lines. These environmental impacts have led to concerns about deforestation, soil erosion, water and air pollution, and the effect on the region's biodiversity.

Furthermore, the mining project has united the indigenous and campesino communities in the region in their opposition. They have voiced their concerns about the loss of land and natural resources, water and air pollution, and the potential impact on their way of life and culture.

The Ecuadorian government has argued that the mining project is essential for the country's economic development and that measures are being taken to minimize environmental and social impacts. However, indigenous and campesino communities continue expressing their concerns and fighting for territorial and cultural rights.

In summary, the Ecuadorian Mining Megaproject is a large-scale copper and gold mining project in southeastern Ecuador. The project has been controversial and criticized due to its environmental and social impact, which has led to concerns about deforestation, water, and air pollution, as well as the impact on Indigenous and Campesino communities in the region. It is essential to continue monitoring and addressing the mining project's challenges and opportunities, collaborate with communities, and ensure sustainable development that respects human rights (Massa-Sánchez et al., 2018).

## 2.3.2 Magnitude and Scope of the Intervention

The magnitude and scope of the Ecuadorian Mining Megaproject intervention are significant and will have a major impact on the

region where it is located on the country. The mining project is one of the largest in Latin America and could produce around 360,000 tons of copper and 415,000 ounces of gold per year over 25 years.

The mining project intervention includes removing large tracts of forest and building infrastructure such as roads and power transmission lines. This has led to about 6,000 hectares of forest deforestation and the construction of a 50-kilometer-long road. In addition, the mining project will require large amounts of water and energy, which may impact the region's water and energy resources.

## 2.4 Impact of Mining on Shuar Territories

Mining has significantly impacted Shuar territories in Ecuador. It has led to concerns about the loss of land and natural resources, water and air pollution, and the impact on the culture and way of life of Shuar communities. The Shuar are an indigenous people living in the Amazon region of Ecuador, and their territory has been subject to mining exploration and exploitation for decades.

One of the main impacts of mining in Shuar territories is the loss of land and natural resources. Mining requires the removal of large tracts of forest and constructing infrastructure, such as roads and power transmission lines. This situation has led to deforestation and habitat loss and has significantly impacted the region's biodiversity. In addition, mining has led to water and air pollution, which impacts the health and well-being of Shuar communities.

It's crucial to note that many Shuar communities actively oppose mining, expressing deep concerns about its impact on their way of life and culture. The forced assimilation of Shuar communities and the significant impact on their territory and natural resources are direct results of mining.

Mining has had a major impact on Shuar territories in Ecuador. It has led to loss of land and natural resources, water and air pollution, and effects on the culture and way of life of Shuar communities. It is crucial to continue monitoring and addressing the challenges

and opportunities of mining in Shuar territories and to collaborate with Shuar communities to ensure sustainable development that respects human rights. The autonomy and self-determination of indigenous peoples must be respected, and their participation in decision-making on using their lands and natural resources must be guaranteed. This is not just a matter of policy but a matter of justice. In addition, it is essential that measures are implemented to minimize the environmental and social impact of mining and that the protection of human rights and biodiversity in the region

### 2.4.1 Displacement and Land Dispossession

**Figure. 20.** Indigenous peoples existed before colonization.



Source: (Carreño, 2017)

Mining in Ecuador has led to the loss of land and natural resources, water and air pollution, and the displacement and dispossession of Shuar communities' territories. The Shuar are an indigenous people living in the Amazon region of Ecuador, and their territory has been subject to mining exploration and exploitation for decades.

One of the main impacts of mining in Shuar territories is displacement and land dispossession. Mining requires the removal of large tracts

of forest and constructing infrastructure, such as roads and power transmission lines. This has led to deforestation and habitat loss, significantly impacting the region's biodiversity. In addition, mining has led to water and air pollution and has dramatically affected the health and well-being of Shuar communities.

The displacement and dispossession of Shuar communities' territories has led to the loss of their livelihoods and forced assimilation into the dominant culture. Many Shuar communities oppose mining and have expressed concerns about the impact on their way of life and culture. However, the Ecuadorian government has argued that mining is essential for economic development and has granted mining concessions in Shuar territories without their free, prior, and informed consent.

The lack of consultation and free, prior, and informed consent of Shuar communities has led to conflict and violence in the region. In 2016, clashes broke out between the police and Shuar communities in Morona Santiago province after the police attempted to evict the communities from their lands to make way for mining exploitation. The confrontations left several people injured and one policeman dead.

The displacement and dispossession of Shuar communities have also significantly impacted their culture and way of life. Mining has forced Shuar communities to assimilate and significantly impacted their territory and natural resources. In addition, mining has led to the loss of the language and traditions of the Shuar communities and has had a significant impact on their identity and connection to the land.   (Espinosa Mogrovejo, 2018).

## 2.4.2 Forced Integration into the Modernization Project

The Shuar people settled in the Ecuadorian Amazon, have suffered a deeply unjust process of forced integration into the modernization project promoted by the Ecuadorian State since the middle of the 20th century. This process, marked by territorial dispossession, violation of human rights and loss of cultural identity, calls for our empathy and understanding.

## Historical Context

Beginning in the 1950s, the Ecuadorian State intensified its efforts to integrate indigenous peoples into the national economy and culture. In this context, the Shuar people were seen as an obstacle to development, and public policies aimed at assimilation were implemented (Ortiz Batallas, 2022).

## Main Forced Integration Strategies

Salesian Mission: The Catholic Church played a fundamental role in the evangelization and acculturation of the Shuar people. The Salesian Mission established schools and religious centers in their territories, seeking to impose Western values and beliefs (Ortiz Batallas, 2022).

Colonization and Resource Exploitation: The expansion of the agricultural frontier and the exploitation of natural resources in the Ecuadorian Amazon invaded Shuar's ancestral territories, generating conflicts and forced displacement (Guerrero, 2017).

Infrastructure and Economic Development: The construction of roads, bridges, and hydroelectric dams in the Amazon region fragmented Shuar territory and altered their natural environment (López, et. al., 2019).

**Figure 21.** Deforestation due to road construction



Source: (López, et. al., 2019)

## Impacts of Forced Integration

Loss of Ancestral Territory: The Shuar people have been deeply

affected by forced integration, losing significant portions of their ancestral territory to expand the agricultural frontier, mining exploitation, and infrastructure construction (Morillo Trujillo, 2020). This loss underscores the severity of the situation and the urgent need for action.

Violation of human rights: The Shuar communities have suffered violations of their human rights, including the right to land, to free, prior and informed consultation, and to free expression (Inter-American Commission on Human Rights, 2021).

Cultural loss: The imposition of external values and practices has generated acculturation processes and loss of cultural identity in some Shuar communities.

Resistance and struggle for their rights: The Shuar people have peacefully resisted forced integration through protests, mobilizations, and legal actions. They have formed indigenous organizations to strengthen their struggle and sought international organizations' support to make their situation visible (Espinosa Mogrovejo, 2018).

**Alternatives to Development**

Proposed Alternatives to Development: The Shuar people have resisted forced integration and proposed alternatives to development. These alternatives, rooted in environmental protection, respect for indigenous rights, and cultural promotion, include community-based tourism development, sustainable agriculture, and handicrafts. This proactive approach demonstrates their commitment to preserving their culture and way of life.

The forced integration of the Shuar people into Ecuador's modernization project has been a complex and painful process with severe social, cultural, and environmental consequences. The Ecuadorian state must recognize and respect the Shuar people's territorial rights and implement mechanisms for dialogue and participation to ensure their inclusion in decisions affecting their future (Velasco Saltos, 2014).

## 2.5 Responses and Strategies of the Shuar Population

## 2.5.1 Diversity of Responses to Mining

The Shuar people, one of Ecuador´s most significant indigenous nationalities, reside mainly in the Amazon region. Their ancestral relationship with the land and their worldview, which emphasizes harmony with nature, have been fundamental pillars of their cultural identity.

The advent of mining, promoted by national and foreign interests, has generated diverse and complex responses among the Shuar. These responses range from active resistance to conditional acceptance, reflecting the diversity and richness of their perspectives and strategies.

### Historical and Cultural Context

The Shuar territory is one of the most biodiverse areas in the world. The forest provides them with sustenance and forms the basis of their spirituality and cultural practices. Traditionally, the Shuar have lived by hunting, fishing, gathering, and subsistence farming, activities that have sustained their way of life for centuries without causing a significant impact on the environment. The irruption of mining in these lands has brought a series of drastic changes. Mining operations, often backed by the government in search of economic revenue, have involved deforestation, river pollution, and forced displacement, which has generated an environmental and social crisis in Shuar communities. (Erazo-Morales & Esteves-Fajardo, 2023).

### Movilización

One of the most notable responses has been active resistance. Numerous Shuar communities have chosen to categorically reject the presence of mining companies in their territories. This resistance has manifested in various forms, from protests and demonstrations to the peaceful occupation of threatened territories. Indigenous organizations such as the Confederation of Indigenous Nationalities of the Ecuadorian Amazon (CONFENIAE) and the Interprovincial

Federation of Shuar Centers (FICSH) have been crucial in coordinating these actions.

The Shuar people have also resorted to legal mechanisms to defend their rights. The 2008 Ecuadorian Constitution recognizes the right of indigenous peoples to be consulted on projects that affect their territories. Through this tool, the Shuar have carried out litigation and filed complaints with national and international organizations seeking to stop the expansion of mining on their lands. (Unkuch Saant, 2018).

## Conditional Acceptance and Negotiation

Not all Shuar communities have adopted a stance of resistance. Some have opted for a conditional acceptance of mining, seeking to negotiate terms that can benefit their community development. This pragmatic approach involves engaging in dialogue with mining companies to secure economic compensation, infrastructure investments, and sustainable development programs.

These negotiations, however, are not free of controversy. Internal community divisions and distrust of mining companies' promises can generate tensions. In addition, there is a risk that the benefits obtained will not compensate for the environmental and cultural damage suffered in the long term. Community fragmentation and persistent environmental impact are constant challenges. (Espinosa Mogrovejo, 2018).

## Consequences and Challenges

The Shuar people's diverse responses to mining reflect the complexity of socio-environmental conflicts in the Amazon. Active resistance has made the indigenous struggle visible at national and international levels, strengthening identity and community cohesion. However, it has also led to reprisals, criminalization of leaders, and violence, which has tested the resilience of Shuar communities.

On the other hand, conditional acceptance and negotiation have provided some opportunities for economic development and infrastructure improvements. However, these benefits often come at a high environmental and cultural cost. Mining can irreversibly degrade ecosystems, altering the Shuar livelihood base and worldview. Furthermore, promises of economic development sometimes fail to be fulfilled, generating disillusionment and social fragmentation.

The diversity of responses by the Shuar people to mining highlights the need for more inclusive and sustainable approaches to natural resource management. Mining policies must consider not only economic benefits but also the rights of indigenous peoples and the preservation of the environment. Prior, free, and informed consultation must be a non-negotiable practice, ensuring that communities have an active role in decision-making that affects their territories.

The Shuar people's case is emblematic of the struggles many indigenous communities face in Latin America and the world. Their ability to adapt and resist external pressures is a testament to their strength and determination. However, protecting their rights and territories requires a constant commitment from society to promote development models that respect our planet's cultural and ecological diversity.

In conclusion, the Shuar people's struggle against mining manifests in their defense of life and natural balance. Their diverse responses, whether through active resistance or conditional negotiation, reflect the complexity of their situation and the urgent need for comprehensive and respectful solutions that recognize and protect their invaluable cultural and environmental heritage. (Espinosa Mogrovejo, 2018).

## 2.5.2 Strategies of Subordination and Resistance

The Shuar people, one of Ecuador's most significant indigenous nationalities, face a series of challenges due to the expansion of mining in their ancestral territories. Mining, promoted by the State

and transnational companies, has triggered diverse responses among the Shuar. These responses can be grouped into two main categories: strategies of subordination and strategies of resistance. This essay explores the different tactics that the Shuar have employed to confront mining, analyzing both forms of adaptation and active opposition.

The Shuar inhabit the Amazon region of Ecuador, an area rich in biodiversity and natural resources. Their worldview is based on a deep connection with the land, which they consider sacred. This ancestral relationship has been fundamental to their identity and survival. However, exploiting natural resources, especially mining, has endangered their territories and way of life. Mining threatens to destroy the environment and imposes development models alien to their values and forms of social organization. (Espinosa Mogrovejo, 2018).

## Subordination Strategies

Some Shuar communities have opted for subordination strategies in the face of mining, seeking to adapt to new circumstances and take advantage of this activity's opportunities. These strategies include:

Negotiation and Agreements: Some communities have decided to negotiate with mining companies and the government to obtain direct benefits. These agreements often include economic compensation, infrastructure improvements, and promises of community development. Acceptance of these proposals may be motivated by the need for resources and the hope of improving the quality of life. (García, 2023).

Participation in Mining Projects: In some cases, members of the Shuar community have become directly involved in mining activities, either as workers or as partners in small mining operations. This participation can provide economic income, although often at the cost of the environmental and cultural integrity of the community. (Espinosa Mogrovejo, 2018).

Cultural and Social Adaptation: Subordination to mining also implies cultural and social adaptation. Some communities have adopted new values and practices that allow them to better integrate into the market economy imposed by mining. This adaptation process can lead to a gradual loss of Shuar traditions and cultural identity. (Alvarado Vélez, 2019).

## Resistance Strategies

In parallel, many Shuar communities have chosen to resist mining, employing various tactics to protect their territories and way of life. Resistance strategies include:

Mobilization and Protest: Active resistance has manifested in numerous protests and mobilizations. The Shuar have organized marches, roadblocks, and land occupations to prevent the advancement of mining projects. These actions seek to draw the public's and authorities' attention to violations of their rights. (Zaruma Ávila, 2023).

Legal Actions: Using the national and international legal framework, the Shuar have filed lawsuits and complaints against mining companies and the State. Ecuador's 2008 Constitution, which recognizes the rights of nature and the rights of indigenous peoples to prior consultation, has been a vital tool in these legal battles.

Strengthening Cultural Identity: As part of their resistance, the Shuar have worked to revitalize and strengthen their cultural identity. This includes promoting their languages, traditions, and spiritual practices. By keeping their culture alive, the Shuar preserve their legacy and improve their community cohesion and resilience.

Alliances and Solidarity Networks: The Shuar have sought support from other indigenous communities, non-governmental organizations, and social movements nationally and internationally. These alliances have been instrumental in amplifying their voices and increasing pressure on mining companies and the government. (Zaruma Ávila, 2023).

## Consequences and Challenges

The Shuar people's strategies of subordination and resistance have had diverse consequences. While it may provide short-term economic benefits, subordination often results in environmental degradation and cultural loss. On the other hand, resistance has succeeded in stopping some mining projects and has strengthened Shuar's identity, but it has also entailed significant costs, such as the criminalization of leaders and violent repression.

The Shuar people's struggle against mining in Ecuador is a testament to their resilience and determination to protect their rights and territory. The strategies of subordination and resistance reflect the complexity of their situation and the diversity of responses to a common threat. Public policies and civil society actions must recognize and respect indigenous peoples' voices and rights, promoting sustainable development that harmonizes with the worldview and needs of local communities.

In conclusion, the Shuar people's responses to mining demonstrate the ongoing struggle for justice and dignity in a context of exploitation and marginalization. Both subordination and resistance are legitimate expressions of their search for a future that respects their identity and rights, and it is everyone's task to support this struggle to preserve their cultural heritage and environment (Delgado, 2017).

## 2.6 The Role of Shuar Political Organizations

### 2.6.1 The Shuar Federation of Morona Santiago (FISH)

## Introduction

The Shuar Federation of Morona Santiago (FISH) is one of Ecuador's most important indigenous organizations. It plays a crucial role in defending the rights of the Shuar people and promoting their integral development. Founded in a struggle for autonomy and recognition, FISH has been central in articulating indigenous demands in the Ecuadorian Amazon. This essay explores the history of FISH, its impact on the Shuar community, and the challenges it

faces today. (Freire & Leyva 2020).

## History and Foundations

FISH was founded in 1964 in the province of Morona Santiago during intensified colonization and exploitation of natural resources in the Amazon. The Shuar, faced with the invasion of their lands by mestizo settlers and extractive companies, sought a way to organize themselves to protect their territories and their way of life. FISH emerged as a response to this threat, aiming to unify Shuar communities and coordinate their resistance efforts.

Since its founding, FISH has worked to strengthen Shuar cultural identity, defend territorial rights, and promote sustainable development. The organization is based on autonomy, solidarity, and respect for nature, reflecting the Shuar worldview of living in harmony with the environment (Benalcázar, 2018).

## Impact on the Shuar Community

**FISH has had a significant impact in several critical areas for the Shuar community:**

Territorial Defense: One of FISH's most significant achievements has been defending Shuar's ancestral territories. Through mobilizations, litigation, and negotiations, FISH has stopped numerous extractive projects that threatened to dispossess the Shuar of their lands. The organization has played a crucial role in implementing free, prior, and informed consultation, a right enshrined in the 2008 Constitution of Ecuador.

Strengthening Cultural Identity: FISH has promoted the revitalization of Shuar culture, supporting initiatives that preserve and disseminate their language, traditions, and ancestral knowledge. This has included the creation of bilingual educational programs, cultural festivals, and documentation of Shuar history and worldview.

Sustainable Development: FISH has worked on sustainable development projects that seek to improve the living conditions

of Shuar communities without compromising ecological balance. These initiatives include organic agriculture, crafts, ecotourism, and community forest management. The organization has promoted development models that respect the Shuar's autonomy and traditional knowledge.

Political Representation: FISH has played a crucial role in the political representation of the Shuar, both at the local and national levels. It has been a platform for indigenous leaders to articulate their demands and participate in decision-making. The federation has facilitated the training of community leaders and has defended Shuar's interests in various governmental and non-governmental bodies (Usma Oviedo et al., 2016).

## Current Challenges

**Despite its achievements, FISH faces several significant challenges today:**

Extractive Pressures: Mining, oil, and other extractive projects threaten Shuar territories. Despite legal victories and mobilizations, economic and political pressures to exploit natural resources in the Amazon persist, putting communities' territorial and environmental integrity at risk.

Criminalization and Repression: FISH leaders and members often face criminalization and repression by authorities and companies. Protests and territorial defense have led to confrontations and judicial persecution of indigenous activists, which weakens the federation's ability to act freely.

Internal Fragmentation: FISH faces internal community fragmentation and division challenges like many Indigenous organizations. Differences in resistance, adaptation strategies, and external influences can generate internal conflicts that weaken the federation's cohesion and effectiveness.

Adaptation to Climate Change: Climate change represents an additional challenge for Shuar communities and FISH. Climate

patterns affect biodiversity and traditional subsistence practices, requiring new adaptation and resilience strategies. (Pinta, et.al. 2021).

The Shuar Federation of Morona Santiago (FISH) has been a fundamental pillar in defending the rights and identity of the Shuar people. A constant struggle marks its history for autonomy, justice, and sustainability. Despite the challenges, FISH remains vital for articulating indigenous demands in the Ecuadorian Amazon.

The future of FISH will depend on its ability to adapt to new contexts and challenges, strengthen internal unity, and forge strategic alliances. Public policies and society must recognize and support FISH's role in building a more just Ecuador that respects cultural and natural diversity.

In conclusion, FISH is a living example of the resistance and resilience of the Shuar people. Its work in territorial defense, cultural strengthening, and sustainable development demonstrates the power of community organization and the importance of indigenous struggles in the 21st century. FISH not only protects the rights of the Shuar but also contributes to the preservation of the Amazon and the search for more equitable and sustainable development models.

## 2.6.2 The Shuar Arutam People and CONAIE

The Shuar Arutam People and CONAIE are two important indigenous organizations in Ecuador that play a crucial role in defending the rights and autonomy of indigenous peoples in the country.

The Shuar Arutam People are an indigenous organization that represents the Shuar nation in the Ecuadorian Amazon. The word "Arutam" refers to the spiritual and vital force that the Shuar believe resides in all living things. The Shuar Arutam People comprise several local communities and organizations that work together to protect their territories and natural resources and promote sustainable development and autonomy for their people.

CONAIE (Confederation of Indigenous Nationalities of Ecuador) is a national indigenous organization representing indigenous peoples throughout the country. It is made up of several regional and indigenous organizations, including the Shuar Arutam People. CONAIE plays a vital role in defending the rights and autonomy of indigenous peoples in Ecuador and has been instrumental in the fight for constitutional reform and promoting indigenous participation in national politics. (Freire & Leyva 2020).

The Shuar Arutam people and CONAIE have a close relationship and work together on several initiatives and campaigns. CONAIE supports the Shuar Arutam people in their efforts to protect their territories and natural resources, and the Shuar Arutam people support CONAIE in its efforts to promote the rights and autonomy of indigenous peoples throughout the country.

One of the main concerns of the Shuar Arutam people and CONAIE is the defense of indigenous peoples' territories and natural resources. The Ecuadorian Amazon is rich in natural resources and has been subject to exploitation and extraction by national and international companies for decades. This has led to deforestation, water and land pollution, and the loss of biodiversity and indigenous peoples' livelihoods.

The Shuar Arutam people and CONAIE have been leaders in the struggle to protect indigenous peoples' territories and natural resources. They have worked together to demand respect for territorial rights and prior and informed consultation of Indigenous peoples before the implementation of extractive projects and other developments in their territories. They have filed complaints and lawsuits against companies and governments for human and environmental rights violations and have participated in mobilizations and protests to draw attention to the situation of indigenous peoples in the Ecuadorian Amazon.

In defending territories and natural resources, the Shuar Arutam people and CONAIE promote sustainable development and indigenous peoples' autonomy. They have worked together to

promote intercultural and bilingual education, indigenous peoples' health and well-being, and participation in national politics.

In conclusion, the Shuar Arutam people and CONAIE are two important indigenous organizations in Ecuador that play a crucial role in defending the rights and autonomy of indigenous peoples in the country. They work together on various initiatives and campaigns and have been leaders in the fight for the protection of indigenous peoples' territories and natural resources, the promotion of sustainable development and the autonomy of indigenous peoples, and the participation of indigenous peoples in national politics. It is essential to support and respect the work of these indigenous organizations and work together to promote the rights and autonomy of indigenous peoples in Ecuador and around the world (Freire & Leyva, 2020).

## 2.7 Conflicts and Social Mobilizations

## 2.7.1 Mobilizations to Reject the Mining Project

In recent decades, the Shuar people have settled in the Ecuadorian Amazon and have carried out various mobilizations to express their absolute rejection of the Warintza mining project promoted by the Canadian company Solaris Resources Inc. in their ancestral territory. These actions of resistance seek to defend their land and way of life and reaffirm their right to self-determination and prior consultation, which are fundamental principles recognized in the Ecuadorian Constitution and international instruments such as ILO Convention 169. (Morillo Trujillo, 2020).

The Warintza project, located in the province of Morona Santiago, contemplates the large-scale exploitation of copper and molybdenum deposits. However, since its inception, the initiative has faced fierce opposition from the Shuar people, who consider mining a severe threat to their territory, water sources, flora and fauna, and, ultimately, to their cultural survival.

The Shuar communities have deployed many strategies to express their rejection of the mining project. Among the most notable are:

Peaceful demonstrations: Marches, sit-ins, and rallies against mining have been organized, both in their communities and in the cities. These actions have made their struggle visible nationally and internationally.

Occupation of mining sites: On several occasions, the Shuar communities have peacefully occupied the sites where mining activity is intended to be developed to prevent its progress.

Legal actions: They have filed legal appeals before the Ecuadorian and international authorities, demanding compliance with their rights and the project's suspension.

Awareness campaigns: They have developed information and awareness campaigns to inform the public about the negative impacts of mining and the importance of defending the Amazon. (Morillo Trujillo, M. E. (2020).

## 2.7.2 Consequences of the 2006 Mobilizations

In 2006, the Shuar people in Ecuador carried out a series of mobilizations against the Mining Law, which was approved by the government of the time. The law granted mining concessions to national and foreign companies in indigenous territories without their prior and informed consent, which violated the territorial and cultural rights of the Shuar people.

The Shuar people's 2006 mobilizations were historic and had important consequences in the country. Firstly, they managed to draw national and international attention to the situation of indigenous peoples in Ecuador and the need to respect their territorial and cultural rights. (Garbay Mancheno, 2015).

Secondly, the mobilizations of the Shuar people in 2006 led to the repeal of the Mining Law and the approval of a new law in 2008, which recognized Indigenous peoples' territorial and cultural rights and required prior and informed consultation before implementing any extractive project in their territories.

However, the consequences of the Shuar people's mobilizations in 2006 were not all positive. During the mobilizations, violent clashes between the police and members of the Shuar people occurred, resulting in several injuries and arrests. In addition, the government of the time accused the Shuar people of obstructing the country's development and being a threat to national security.

The mobilization of the Shuar people in 2006 also had economic and social consequences for the Shuar people. Many Shuar communities were affected by repression and violence during the mobilizations, leading to the loss of lives and livelihoods. Furthermore, the stigmatization and criminalization of the Shuar people by the government and the media have hurt their image and their relationship with the rest of Ecuadorian society.

Despite the negative consequences, the Shuar people's mobilizations in 2006 were a milestone in the struggle of indigenous peoples to defend their territories and natural resources in Ecuador. The mobilizations demonstrated the Shuar people's strength and determination in defending their rights and culture and set a precedent for the struggle of other indigenous peoples in the country.

It is essential to support and respect the struggle of the Shuar people and other indigenous peoples to defend their territories and natural resources. Mining companies and the government must respect indigenous peoples' territorial rights and guarantee informed consultation before implementing any extractive project in their territories. Indigenous peoples' participation and free, prior, and informed consent is essential to guaranteeing sustainable development and protecting human and environmental rights in Indigenous territories. (Garbay Mancheno, 2015).

## 2.8 The Hegemony Crisis of the Mining Project

## 2.8.1 Impact of the Shuar Mobilization

The hegemony crisis of the mining project in the Cordillera del Cóndor, Ecuador, refers to the tension and conflict generated

between the State and the Shuar organizations due to the implementation of an industrial mining district in the region. This conflict focuses on the subordination of the Shuar political subject and their resistance to industrial mining, which threatens their cultural and territorial survival. (Chicaiza Aguilar, 2013).

## Origins of the Conflict

The mining project in the Cordillera del Cóndor began during the first Alianza País government but soon faced a hegemony crisis due to the social mobilization of the Shuar population. This mobilization, led by Shuar organizations, temporarily stopped the mining project, which caused a hegemony crisis in the region.

## mpact of Shuar Mobilization

The Shuar mobilization has significantly impacted the mining project's hegemony crisis. Shuar organizations have developed a political subjectivity that opposes the expansion of the mining industry in their territory. This subjectivity is based on the defense of their territory and culture and has been manifested through protests and social mobilizations against industrial mining. (Chicaiza Aguilar, 2013).

Today, Shuar's resistance remains strong. The Shuar Arutam People have ratified their resistance against Canadian and Chinese mining companies, denouncing the mining industries and Ecuadorian governments' divide-and-conquer strategies. The Shuar community has faced threats, poverty, and environmental and social contamination and has made significant advances in its fight against mining. (Morillo Trujillo, M. E., 2020)

The mining project's hegemony crisis has developed in a complex political context. In May 2023, Ecuadorian President Guillermo Lasso dissolved Congress and called for new elections, generating a deep political crisis. In this context, the June 13, 2023, march, which demanded an Ecuador free of mining, occurred as a response to the political crisis and the expansion of the mining industry in the region.

The hegemony crisis of the mining project in the Cordillera del Cóndor is an example of the tension between the State and social movements that oppose the expansion of the mining industry in Latin America. The relationship between Chinese mining companies and the presence of anti-systemic social movements in the region is a critical issue in understanding this conflict.

In short, the hegemony crisis of the mining project in the Cordillera del Cóndor is a conflict that focuses on the subalternation of the Shuar political subject and resistance to industrial mining. Shuar mobilization has significantly impacted the hegemony crisis, and their resistance remains strong today. (Morillo Trujillo, M. E., 2020)

## 2.8.2 Assessment of the Mining Project Setback

The mining project in Morona Santiago, Ecuador, has experienced a significant setback recently. The project, led by the Chinese company Explorcobres S.A., aimed to exploit copper in the territory of the Shuar people in the province of Morona Santiago.

However, the mining project has faced several obstacles and challenges that have led to its setback. One of the main obstacles has been the opposition of the Shuar people and other local communities to the mining project. Since the beginning of the project, the Shuar people have expressed concern about the possible impact on their territories and natural resources and have demanded respect for their territorial and cultural rights. (Morillo Trujillo, M. E., 2020)

In addition to the opposition of the Shuar people, the mining project has also faced technical and economic challenges. The company Explorcobres S.A. The mining project in Morona Santiago has had difficulty obtaining the necessary permits and authorizations to carry out the project and has faced financial problems that have affected its ability to continue.

Several factors must be considered when evaluating the setback of the mining project in Morona Santiago. First, it is essential to assess the impact of the project's setbacks on the local and national

economies. The mining project could generate jobs and economic resources for the province of Morona Santiago and the country in general. However, the project setback may also hurt the local and national economies.

Second, evaluating the impact of the project's setback on the environment and natural resources is important. The territory of the Shuar people is rich in biodiversity and natural resources, and the mining project could have hurt these resources. The project's setback may be an opportunity to protect and preserve the environment and natural resources in the territory of the Shuar people. (Morillo Trujillo, M. E., 2020)

Third, evaluating the impact of the project's setback on the Shuar people and other local communities is essential. The Shuar people have expressed their opposition to the mining project from the beginning, and the withdrawal of the project may be a victory for the Shuar people and other local communities who have fought to defend their territories and natural resources. However, the withdrawal of the project may also have negative consequences for the Shuar people and other local communities, such as the loss of economic opportunities and the continued stigmatization and criminalization of the Shuar people by the government and the media.

In conclusion, the assessment of the withdrawal of the mining project in Morona Santiago must consider several factors, including the impact on the local and national economy, the environment and natural resources, and the Shuar people and other local communities. It is essential to ensure respect for the territorial and cultural rights of the Shuar people and other local communities, as well as to promote sustainable development and the protection of human and environmental rights in the territory of the Shuar people. (Morillo Trujillo, M. E., 2020)

## 2.9 Future Perspectives and Challenges for the Shuar Ethnic Group

The Shuar ethnic group settled in the Ecuadorian Amazon, faces an uncertain future marked by various challenges and opportunities.

Their ancestral territory, rich in natural resources and biodiversity, is constantly threatened by extractive activities, deforestation, and development projects that threaten their way of life, culture, and worldview.

The current outlook for the Shuar people is complex and presents various challenges:

Threats to their territory: The constant pressure from extractive activities such as mining and oil exploitation, together with deforestation and the expansion of the agricultural frontier, puts their ancestral territory and natural resources at risk, which are fundamental pillars for their survival and cultural identity.

The excessive exploitation of natural resources and the destruction of natural habitats are accelerating the loss of biodiversity in the Amazon, directly affecting the Shuar people, who depend on the forest for their food, medicine, and cultural practices.

Climate change: Climate change and its effects, such as rising temperatures, drought, and flooding, are having a significant impact on the Amazon, threatening the food security and health of the Shuar people and their traditional agricultural practices.

The Shuar people continue to face discrimination and exclusion in various areas of Ecuadorian society, which limits their opportunities for access to education, health, employment, and political participation.

Globalization, acculturation, and lack of support for ancestral traditions threaten the culture and traditions of the Shuar people, putting their identity and worldview at risk.

## A Future Full of Possibilities

Despite the challenges, the Shuar people also could build a more just and sustainable future. Among the most promising prospects are:

**Strengthening cultural identity:**

• Revaluing and maintaining their rich culture and worldview, including revitalizing their language, is essential to preserving their legacy and passing it on to new generations.

• recovering their ancestral traditions

• promoting intercultural education

The Shuar people's future depends on defending their ancestral territory and fighting for self-determination. Autonomous management of their lands and resources will allow them to make decisions about their future and protect their environment.

The Shuar people can develop sustainable financial models that respect their culture and environment. Community tourism, organic agriculture, crafts, and sustainable forest management are some alternatives they can explore.

Access to quality education and health: Education and health are fundamental pillars of the Shuar people's development. Access to intercultural education and quality health services will allow them to improve their quality of life and strengthen their capabilities.

Social organization is essential for the Shuar people to defend their rights and achieve their goals. Strengthening their community organizations and active participation in decision-making are critical to their future. (Morillo Trujillo, M. E., 2020)

To achieve these future perspectives, the Shuar people need the support and solidarity of the international community. It is necessary to:

Make the struggle of the Shuar people visible: It is essential to generate awareness and support for their cause to make the threats faced by the Shuar people and their struggle to defend their rights known globally.

Strengthening indigenous organizations: Providing technical, financial, and political support to the Shuar people's indigenous

organizations is essential to strengthening their capacity to organize, defend, and manage their territories.

Demand that governments and companies respect Indigenous rights, including the right to prior, accessible, informed consultation and self-determination.

Encourage and support the development of sustainable financial models that respect the culture and environment of the Shuar people, such as community tourism and organic agriculture.

Urgent measures must be taken to combat climate change and protect the Amazon, home of the Shuar people and its incredible biodiversity.

### 2.9.1 Long-Term Projections

The Shuar people, settled in the Ecuadorian Amazon, face an uncertain future but one full of possibilities. Their ancestral territory, rich in natural resources and biodiversity, is constantly threatened by extractive activities, deforestation, and development projects that threaten their way of life, culture, and worldview. (Juncosa Blasco, 2020).

Analyzing the long-term prospects of the Shuar people requires considering both the challenges and opportunities that lie on the horizon. As challenges, it is essential to considerate the following:

Pressure on natural resources: Global demand for natural resources such as oil, minerals, and timber will continue to pressure the Amazon, threatening the Shuar people's ancestral territory and livelihoods. (Juncosa Blasco, 2020).

Climate change: The effects of climate change, such as rising temperatures, drought, and flooding, will intensify, negatively impacting the Shuar people's food security, health, and ecosystem.

Discrimination and exclusion: Structural discrimination and exclusion towards indigenous peoples could persist, limiting the Shuar people's opportunities for access to education, health, employment, and political participation.

Loss of culture: Globalization, acculturation, and a lack of support for ancestral traditions could continue to erode the Shuar people's culture and traditions, threatening their identity and worldview.

On the other hand, the future opportunities for the Shuar people are:

Strengthening cultural identity: Revaluing and maintaining their rich culture and worldview is essential to preserving and transmitting their legacy to new generations. This includes revitalizing their language, recovering their ancestral traditions, and promoting intercultural education.

Territorial autonomy: The defense of their ancestral territory and the fight for self-determination are critical to the future of the Shuar people. The autonomous management of their lands and resources will allow them to make decisions about their future and protect their environment.

Sustainable economic development: The Shuar people can develop sustainable economic models that respect their culture and environment. Community tourism, organic agriculture, crafts, and sustainable forest management are some alternatives they can explore. (Juncosa Blasco, 2020).

Access to quality education and health: Education and health are fundamental pillars of the Shuar people's development. Access to intercultural education and quality health services will improve their quality of life and strengthen their capacities.

Strengthening social organization: Social organization is essential for the Shuar people to defend their rights and achieve their goals. Strengthening their community organizations and active participation in decision-making are critical to their future.

Based on the challenges and opportunities described, we can imagine two possible scenarios for the future of the Shuar people in Ecuador:

The first scenario could be resistance and self-determination. In this scenario, the Shuar people strengthen their cultural identity, defend their ancestral territory, and develop sustainable economic models. They achieve greater autonomy and participation in decision-making, consolidating their self-determination. Discrimination and exclusion decrease and their culture flourishes in a context of respect and recognition.

Another scenario is vulnerability and marginalization. In this scenario, threats to the territory, culture, and way of life of the Shuar people intensify. Deforestation, oil and mining exploitation, and the effects of climate change degrade their environment and limit their resources. Discrimination and exclusion persist, hindering their access to education, health, and development opportunities. (Juncosa Blasco, 2020).

In conclusion, the future of the Shuar people in Ecuador depends on their ability to face the challenges and take advantage of the opportunities that arise. Strengthening their cultural identity, defending their ancestral territory, developing sustainable economic models, access to quality education and health, and maintaining social organization are vital to building a more just and sustainable future.

The international community has a fundamental role in the future of the Shuar people. It must make their struggle visible and strengthen Indigenous organizations.

## 2.9.2 Reflections on the Shuar Resistance

The resistance of the Shuar People in Ecuador is a movement that has gained strength in recent years, confronting mining exploitation in their territories and fighting for the protection of their environment and way of life. Below are some critical reflections on this resistance:

The Mandate for a Mining-Free Ecuador: The Shuar resistance has grown stronger amid a political crisis in Ecuador. In May 2023, President Guillermo Lasso dissolved Congress. He called for new

elections, leading to a referendum that banned mining in the province of Pichincha, including the capital city of Quito and its surroundings. This ban became the second referendum to ban new mining projects at the provincial level. (Croda, 2023)

The Importance of Free, Prior, and Informed Consultation: The Shuar resistance highlights the importance of free, prior, and informed consultation, a right guaranteed by the Ecuadorian Constitution. However, the Ecuadorian government has granted mining concessions without the prior consent of indigenous communities, leading to illegal mining in Ecuador.

Unity and Solidarity: The Shuar resistance has had the solidarity of international and national organizations, such as Amazon Watch, which has supported the PSHA's fight against mining in their territories. Unity and solidarity have been key to achieving important advances in the fight against mining and protecting the Shuar's environment and way of life. (Eguiguren Riofrio, 2019)

The Fight Against Colonialism and Racism: The Shuar resistance is also a fight against colonialism and racism. The Ecuadorian government has supported Chinese mining transnationals, which shows the current State of racism and colonialism of a State that despises the immemorial presence of indigenous peoples. The struggle of the Shuar nation is a direct fight against the colonial State and its structure of domination.

The Defense of Territory and Culture: The Shuar resistance defends territory and culture. The Shuar have sovereignly inhabited the southern Amazon of Ecuador and northeast Peru for centuries, long before national states were built. The struggle is to protect their environment, way of life, and cultural heritage.

In short, the Shuar resistance in Ecuador is a movement that fights to protect the environment, defend territory and culture, and fight against colonialism and racism. Unity and solidarity have been vital to achieving essential advances in this struggle. (Eguiguren Riofrio, 2019).

# CHAPTER III

## STRATEGIES THAT GUARANTEE RESPONSIBLE AND SUSTAINABLE MINING
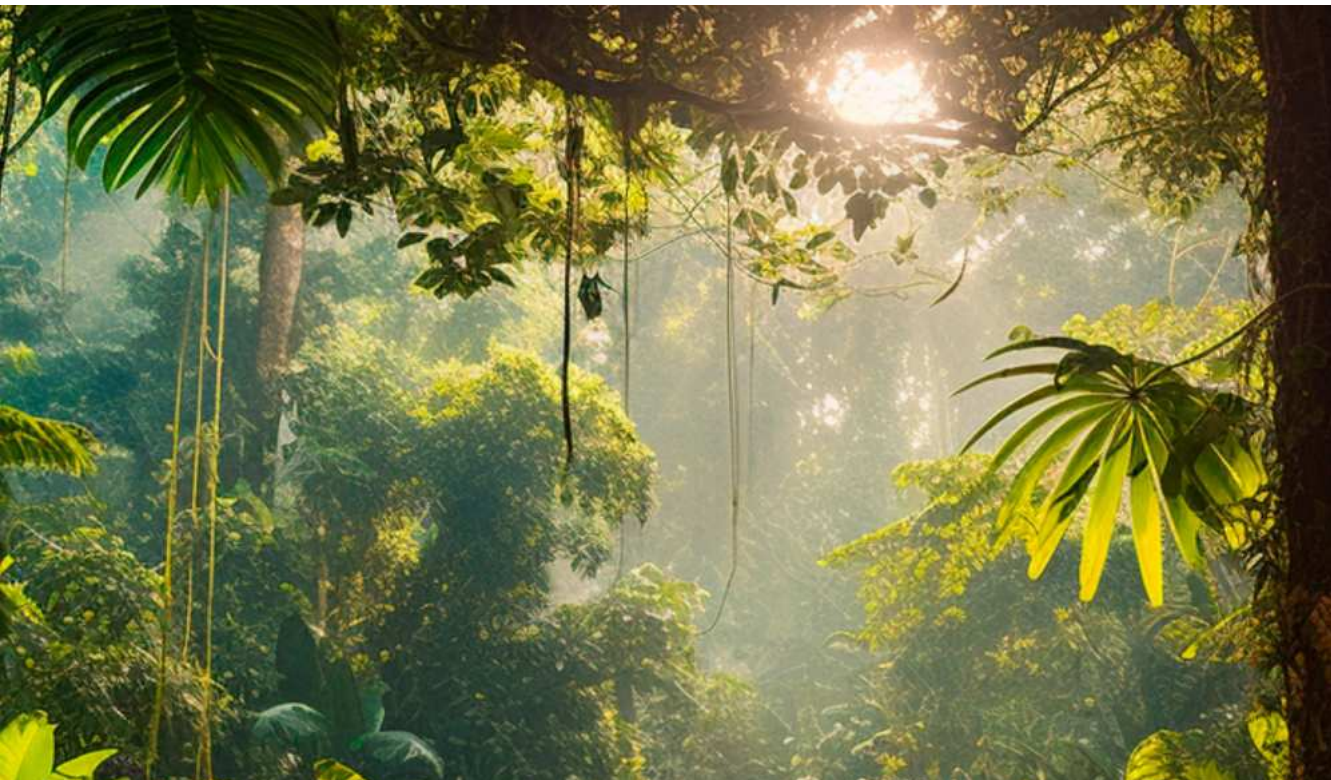
**Figure. 22.** Warintz_Morning Meeting



Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

## 3.1. Context and Relevance of Responsible Mining

### 3.1.1. Historical Background and Evolution of Mining

Mining activity, since ancient times, has been fundamental to developing human societies. Early civilizations used minerals for tools and ornaments, while the Industrial Revolution spurred a boom in the extraction of minerals needed for machinery manufacture and infrastructure construction.

Over time, mining has evolved with the advance of technology and the growing demand for natural resources. However, this development has been accompanied by significant challenges, such as negative environmental impacts, social problems, and conflicts with local communities (Saade Hazin, M. 2014).

### 3.1.2. Definition of Responsible Mining

Responsible mining is an approach that seeks to balance the extraction of minerals with the preservation of the environment and the well-being of communities. It is based on practices that minimize environmental impact, promote social justice, and ensure long-term economic viability.

The practice of responsible mining is determined by characteristics

that differentiate it from traditional mining, such as sound environmental management, social responsibility, transparency and accountability, and regulatory compliance.

To achieve adequate environmental management, practices that reduce pollution and restore the affected environment must be implemented. When an ecosystem is affected, it implies a social responsibility to consider the rights and well-being of the affected local communities.

It is important to keep in mind that to carry out a sustainable and responsible mining process, the impacts and benefits of the mining activities that will be carried out must be clearly and precisely disclosed and a commitment must be made to fully comply with international regulations and standards governing mining (Montero-Peña, J. M. 2003).

### 3.1.3. The Importance of Responsible Mining

In today's world, Latin American countries see mining as an essential activity for resource supplies. Hence, they know it can generate significant environmental impacts, such as ecosystem degradation, water and soil contamination, and greenhouse gas emissions.

When talking about ecosystem degradation, it is established that natural habitats can be altered or, in the worst case, destroyed due to the extraction of minerals. The processing of these minerals leads to toxic substances release such as heavy metals and chemicals that contaminate the soil and water sources near the extraction site while generating greenhouse gas pollutants.

The implementation of responsible practices helps mitigate these impacts through cleaner technologies, efficient waste management techniques, and ecological restoration strategies.

Responsible mining not only seeks to reduce negative impacts but can also offer significant benefits such as employment generation through the creation of direct and indirect job opportunities for the inhabitants of local communities, the development of infrastructure

such as roads and public services, and in general community development that encompasses corporate social responsibility projects that promote education, health and well-being in nearby communities (Quintero, et al., 2017).

**Resource Demand and Market Pressures**

Population growth and technological advancement are increasing the demand for minerals. Consumers and markets are increasingly aware of sustainability and corporate social responsibility. Mining companies that adopt responsible practices can enhance their reputation, access markets that value sustainability, and meet investor expectations (Peña, J. M. M. M., & Pérez, Y. S. 2011).

**International Regulations and Standards**

The regulatory framework and social expectations surrounding mining are evolving rapidly. International organizations such as the OECD, the UN, and various NGOs promote standards and guidelines for responsible mining, ranging from environmental management to human rights. Meeting these standards is not only a legal obligation, but a strategy for securing social acceptance and a license to operate.

**3.1.4. Challenges and Opportunities**

A responsible and sustainable mining process faces challenges all mining corporations are willing to assume. Among these challenges are the various regulations and norms, and the investment that must be made to acquire clean technologies and to be able to carry out sustainable practices. The most significant challenge is to maintain effective communication and participation of the members of the affected communities to improve the tensions caused by the fear of change and the unknown.

The practice of responsible mining provides opportunities for mining companies. These opportunities include technological innovation that not only reduces environmental impact but also improves the efficiency of production processes. Products

resulting from responsible practices are increasingly appreciated in the market, which means that the image of sustainable mining companies is being strengthened.

Responsible mining is essential to ensure resource extraction benefits the environment and communities. Increasing market pressures and evolving regulations reinforce the need to adopt sustainable practices. As the mining industry faces these challenges, implementing responsible strategies is an ethical obligation and an opportunity to improve the viability and positive impact of mining operations in the future.

## 3.2. Principles of Responsible Mining

Responsible mining is based on fundamental principles to balance resource extraction with environmental protection and social welfare. These principles seek to ensure that mining activities are conducted in an ethical, transparent, and sustainable manner (Del Rio Monges, et. al., 2022).

The main principles that define responsible mining are detailed below.

### 3.2.1. Balance between Economic Development and Environmental Conservation

This principle focuses on a balanced economic development of mineral resources and environmental protection. Mining activities should generate economic benefits without compromising the integrity of the surrounding ecosystems.

Minimizing environmental impact by implementing practices and technologies that reduce ecosystem disturbance, water and soil contamination, and emissions of polluting gases is part of the principles. Hence, developing and implementing restoration and rehabilitation plans for affected areas, ensures that the land can recover and return to its natural state or a sustainable use (Trujillo, H. C., & Chica, V. C. 2016).

### 3.2.2. Local Communities Rights

This principle emphasizes respect for and promotion of the rights of local communities affected by mining activities. It includes the participation of communities in decision-making and ensuring that they benefit fairly from mining operations. Mechanisms for effective consultation and community involvement in the planning and development process of mining projects must be established and provide tangible benefits to local communities, such as employment, training, and infrastructure development, and compensate for any negative impacts associated with mining (Miranda, M., Chambers, D., & Coumans, C. 2005).

### 3.2.3. Transparency and Accountability

Transparency and accountability are essential to build trust among stakeholders and ensure that mining practices are fair and responsible. It involves clear communication about the mining activities' impacts, practices, and benefits.

A fundamental aspect of this principle is the timely disclosure of information, which entails providing complete and accessible information on the environmental, social, and economic impacts of mining operations. No less important within this principle is auditing and monitoring, which involves conducting independent audits and establishing ongoing monitoring systems to assess compliance with standards and the effectiveness of responsible practices (Miranda, M., Chambers, D., & Coumans, C. 2005).

### 3.2.4. Regulatory Compliance and Continuous Improvement

It is relevant that mining practices comply with national and international laws to ensure they follow established standards. In addition, companies must be committed to continuous improvement to adapt to new challenges and advances in sustainable practices. Comply with all applicable environmental, social, and labor laws, regulations, and standards. As well as adopting innovative practices and emerging technologies that promote sustainability and enable continuous improvement in

mining processes (Dufey, A., & Zamorano, P. 2023).

### 3.2.5. Occupational Health and Safety

Ensuring the safety and health of workers is a fundamental principle of responsible mining. Working conditions must be safe, and healthy, and comply with international health and safety standards. It is pertinent not to neglect to mention that strict measures must be implemented to protect workers from risks associated with mining activities, such as accidents and occupational diseases, in addition to providing adequate training and resources to ensure that employees are well informed about safe and healthy practices, and to promote their general well-being. (Rebaza Terry, D. S. 2020).

### 3.2.6. Economic and Financial Responsibility

This principle focuses on the economic and financial management of mining operations to ensure their long-term viability while minimizing economic and social risks. To achieve it, responsible financial management must be maintained, avoiding corruption and ensuring that resources are used effectively. Periodic evaluations of economic impacts should also be carried out to ensure that benefits outweigh costs and are distributed equitably.

### 3.2.7. Accountability for Innovation and Science

Responsibility towards innovation and science means adopting and promoting innovation and scientific research in the mining sector to improve practices, reduce environmental impacts, and promote sustainability.

The most relevant aspects to consider in this principle are research investment and new technologies application. Supporting research to develop new technologies and methods that improve the efficiency and sustainability of mining optimizes mining processes and minimizes their environmental impact.

### 3.3. International Regulations and Standards for Responsible Mining

Responsible mining is led by international regulations and

standards that establish guidelines for the environmental, social, and economic management of mining activities. These frameworks try to ensure that mining is carried out in a sustainable way and with the least possible impact. The main international regulations and standards relevant to responsible mining are detailed below (Dufey, A., & Zamorano, P. 2023).

### 3.3.1. International Regulations

### Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

CITES is an international agreement that regulates trade in wild species to ensure that it does not threaten their survival. Mining can affect the habitats of protected species, and CITES regulations help to minimize these impacts. It also ensures that mineral resource extraction does not compromise the conservation of threatened species and their habitats.

### Minamata Convention on Mercury

This international treaty seeks to reduce the use and emissions of mercury, a heavy metal that can be released during mining activities. It regulates the use of mercury in artisanal and small-scale mining, thus protecting human and environmental health.

### World Bank Mining Guidelines

The World Bank guidelines set standards for environmental and social management in mining projects financed by the bank. They promote sustainable practices and community participation in large-scale mining projects.

### 3.3.2. International Standards

ISO 14001 ISO Standards

ISO 14001 (Environmental Management System)

ISO 14001 establishes the requirements for an effective environmental management system. It provides a framework for managing environmental impacts and complying with regulations.

This standard helps mining companies implement systematic environmental management practices and comply with legal and sustainability requirements.

ISO 45001 (Occupational Health and Safety Management System)

ISO 45001 provides guidelines for a safe and healthy working environment. It ensures the workers' health and safety in the mining sector.

**Extractive Industries Transparency Initiative (EITI)**

EITI is an international standard that promotes transparency in managing natural resources, including mining. This standard requires member countries to publish detailed reports on revenues generated by mining and other extractive sectors, promoting accountability and the fight against corruption.

**Initiative for Responsible Mining (IRMA)**

IRMA establishes a responsible mining standard comprising environmental, social, and governance aspects. It includes principles and criteria for responsible mining operations. Its importance lies in the fact that it provides a certification that recognizes mining companies that comply with high standards of responsibility and sustainability.

**3.3.3. Corporate Social Responsibility (CSR) Codes and Principles**

**ONU Global Compact Principles**

The ONU Global Compact is an initiative that promotes principles on human rights, labor, environment, and anti-corruption. Mining companies that adhere to these principles commit to operating ethically and sustainably (Dufey, A., & Zamorano, P. 2023).

**International Council on Mining and Metals (ICMM) Codes of Conduct:**

ICMM promotes principles and commitments for responsible

mining, including environmental stewardship, respect for human rights, and transparency. This code provides a framework for responsible practices in the global mining industry.

### OECD Guidelines for Supply Chain Due Diligence

The OECD guidelines recommend due diligence in mineral supply chains, focusing on avoiding conflict financing and promoting sustainability. They also help companies manage the risks associated with the minerals supply chain, ensuring that resources do not come from conflict areas or fail to respect labor and environmental standards. (García-Marzá, D. 2017).

### Assessments and Audits

Independent assessments and audits are essential to verify compliance with international regulations and standards. They ensure that mining practices meet sustainability and transparency requirements and identify areas for improvement.

### Training and Development

Ongoing staff training on international norms and standards is crucial to ensure their correct implementation. Training ensures that employees are informed about best practices and legal requirements, facilitating proper management of mining operations.

### Multilateral Collaboration

Collaboration between governments, companies, NGOs, and other people involved is fundamental for the effective implementation of regulations and standards, facilitating the alignment of policies and practices at a global level, and promoting a coherent approach to responsible mining (Martos, J. A. M. 2011).

# CHAPTER IV

## MINING AND ITS INFLUENCE ON THE COMMUNITIES OF WARINTS AND YAWI
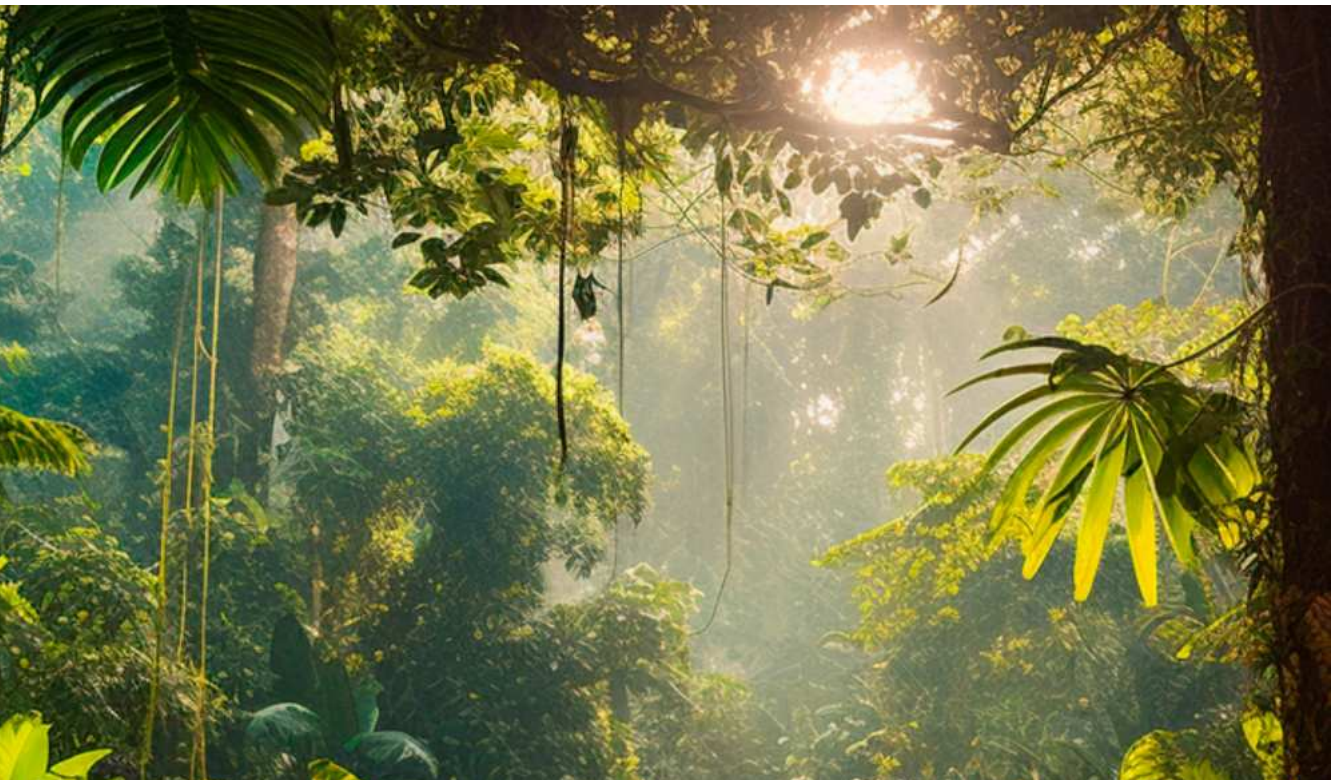
**Figure. 23.** Warintza Project



Source:(https://www.petroenergia.info/post/lowell-anuncia-programa-de-capacitaciones-en-cooperativismo-en-comunidades-de-warints-y-yawi, 2021)

Mining is an economic activity that significantly impacts the environment and the lives of the people in the areas it affects. In recent years, mining companies have reached the communities of Warints and Yawi in the Ecuadorian Amazon region. These communities belong to the Awajún Indigenous people, who have their own culture, language, and worldview. The arrival of mining has generated different social, environmental, and cultural conflicts that accompany the daily life of Warints and Yawi, where the integrity and welfare of its inhabitants are at stake, as in most of the sectors where it usually occurs. (Gumenik & Lozhnikov, 2015)

Some of these conflicts are the contamination of water, air, and soil by toxic waste from mining activities, deforestation and loss of biodiversity, the affectation of people's physical and mental health, the violation of the human and collective rights of Indigenous people; the loss of cultural identity and territorial autonomy; division and confrontation between communities over the economic benefits of mining. (Du et al., 2022)

The State, mining companies, and civil society must take urgent action to address these problems. It involves ensuring that the rights of the Warints and Yawi communities are respected, protected, and promoted while fostering the sustainable development of a sensitive region. (Du et al., 2022)

More positive relationships have been established between the extractive industry and affected communities based on respect, commitment, and mutual benefit. An example is the Protocol for Integrating Indigenous Communities and Mining Activity published by González Yagüe (2015), who addresses the challenges related to the development of mining projects from an inclusive perspective, benefiting all parties involved.

Thus, mining activity can have positive and negative effects on communities in economic and social terms. Therefore, it is crucial to implement preventive measures, such as community relations planning and thorough monitoring of compliance with the technical plan, to mitigate these impacts. (Rosales & Cuesta, 2023).

## 4.1. Mining and Amazonian communities.

The implementation of mining projects in the Amazon has raised concerns about their impact on indigenous communities and the environment. According to a report by the World Resources Institute (2020), more than 20% of indigenous lands in the Amazon basin are occupied by mining activities, putting hundreds of indigenous communities at risk and affecting critical ecosystems in an area of 450,000 square kilometers. The study also reveals that illegal mining in more than 1,100 indigenous territories in the Amazon is related to high levels of deforestation. In addition, illegal mining operations are polluting at least 30 Amazonian rivers with toxic chemicals. (World Resources Institute, 2020)

Indigenous communities are fundamental to environmental protection. Mining activity affects their ability to protect themselves and preserve ecosystems essential to the planet's well-being. Previous WRI studies revealed that lands with secured Indigenous rights about the deforestation rate, which is significantly lower than

in other areas. (Gendler et al., 2019)

Some of the disadvantages of the arrival of mining in these areas are: (Burdzieva et al., 2016)

Decrease in forest cover and biodiversity. Mining involves the tree's demolition, removal of vegetation, and modification of the living conditions associated with various plant and animal species. It diminishes the capacity of ecosystems to provide environmental services such as water, air, and climate.

Environmental contamination implies soil, water, and air. Mining leaching involves chemicals such as mercury, cyanide, and other heavy metals, affecting water quality, human health, or wildlife. In addition, climate change is also caused by greenhouse gas emissions generated by mining.

Displacement and social unrest - what is the solution? Both indigenous peoples and peasant communities in the Amazon are under significant pressure from mining, which also puts pressure on their natural habitats. Violence occurs between miners, authorities, and locals due to the forced eviction of numerous families who lose their livelihoods and culture.

Economic dependence and vulnerability. Mining creates the illusion of development by exploiting a non-renewable resource that gradually depletes. The mining industry creates economic constraints for communities, offering neither sustainable alternatives nor equitable opportunities. In addition, mining puts communities at risk of international market fluctuations and financial hardship.

However, mining is an economic activity that benefits not only the region where the intervention took place but also the nation; it has relevant environmental and social consequences, particularly in Amazonian communities when (Garcia et al., 2020), (Economy, 2020)

By creating jobs for the local population, both directly and indirectly, their income and quality of life are positively impacted.

Investment in infrastructure, public services, education, health, and the environment is crucial for the social development of the regions, etc.

The knowledge incorporation, technology, and environmentally friendly practices enhance productive capacities and the sustainable management of natural resources.

Democracy, transparency, and corporate social responsibility are promoted through community participation in mining decisions and social control.

Mining can also be interpreted as an opportunity for the Amazonian community's development since it respects human rights, cultural diversity, and biodiversity preservation in Ecuador. (López & Cuesta, 2023).

## 4.2. Needs of the Warints and Yawi Communities.

An indigenous group known as the Warint inhabits the province of Morona Santiago in the Ecuadorian Amazon. "People of the river" is a term used to describe them, and their main occupations are agriculture, fishing, or hunting. This population faces several daily obstacles when mining operations are present in the sectors for their advancement and well-being, such as: (Gumenik & Lozhnikov, 2015):

Essential services deficiency such as health care, education, potable water, and electricity.

The environment is at risk from deforestation, pollution, and climate change. Worldwide?

Other sectors of Ecuadorian society are also involved in discrimination and racism.

Their culture and language distanced themselves from them in Western culture.

The absence of financial assets and job prospects.

As an indigenous group, the Warints are at risk of extinction due to these limitations that negatively affect their living conditions. The Ecuadorian state and civil society must recognize and honor their collective rights and encourage their involvement and participation in the decision-making and development spaces of the country (Phillips, 2016).

In addition, the Yawi community is one of the 14 indigenous peoples in Ecuador. Their territory is in the province of Pastaza, in the Amazon region. The Yawi people have an ancient culture based on respect for the environment and ancestors. However, many constraints affect their development and survival, where the main limitations of the Yawi community have the same complications in villages where there is mining (Yu & Zahidi, 2023):

Lack of access to essential services such as potable water, electricity, health, and education. According to the 2010 census, 90% of the Yawi population has no running water, 97% has no sewerage, and 87% has no electricity. In addition, only 29% of the Yawi have some level of education, and 71% are illiterate. Health services are inadequate and inadequate, resulting in high infant and maternal mortality.

Extractive activities are vulnerable, which threatens the region and the environment. The Yawi oppose the presence of oil, mining, and logging companies that pollute their rivers, soil, and air without their consent. It affects the health of the leatherback fish and their habitat. In addition, the Yawi people have been forced to relocate due to violence and clashes.

Discrimination and racism are faced in an elite society. Historically, the Yawi people have been excluded and marginalized by the government and other social sectors that attack or limit their culture and rights. The Yawi people have suffered mistreatment, physical and symbolic violence, and assimilation policies aimed at erasing their identity and worldview.

These restrictions challenge the Yawi community, which strives to protect its territory, culture, and status. The Yawi people demand recognition and respect for their independence, diversity, and culture. The Yawi people also aspire to improve their lives through sustainable development projects that respect their cosmovision and ancestral knowledge.

## 4.3. Warints and Yawi growth profile

Warints is an Indigenous community in the province of Morona Santiago in southeastern Ecuador. The population is around 2,000 inhabitants, distributed in 36 communities. Warints are identified for their ancestral culture, social and political organization, resistance to external threats, and good environmental connection.

The growth of the Warints community in recent years is due to the following factors: (PETROENERGY, 2021)

Identity strengthening and independence restore the language, knowledge, culture, and methods of their own life.

Preservation of the territories and natural resources from the pressure of mining companies, neighbors, and governments. Warints has successfully managed large areas of the Amazon rainforest, varied in biodiversity and water resources.

Cooperation with other Indigenous peoples and community organizations at local, national, and international levels. Warints has actively participated in Indigenous people's defense and mobilization for their group rights and in proposing alternative development programs.

Creation of economic income through agriculture, fishing, hunting, handicrafts, and social tourism. The Warints could change their lives without losing their worldview and ecological balance.

The Yawi community is an indigenous group living in Napo in the Amazon region of Ecuador. The population is around 2,000 inhabitants, distributed in 16 communities along the Napo River and its tributaries. The Yawi community has experienced significant

demographic and economic growth in recent years, thanks to the implementation of sustainable development programs, the protection of collective rights, and the preservation of culture and language similar to the defense carried out in the northern territories of Ossetian. (Burdzieva et al., 2016)

Sustainable development projects promoted by the Yawi communities include organic agriculture, ecotourism, handicrafts, beekeeping, and fish farming. These activities can generate income for families and improve the quality of life without damaging local natural resources. In addition, the Yawi community has formed alliances with non-governmental organizations, civil society, and other indigenous communities to strengthen their organizational capacity and political influence, just as the African communities underwent. (Edwards et al., 2014)

The protection of the Yawi community's collective rights is a significant reason for the growth of the Yawi community. The Yawi community has struggled to improve their ethnic identity, territorial autonomy, participation in decisions that affect them, and access to essential services such as education, health, and communication. The Yawi community has succeeded in claiming title to their ancestral lands, establishing multilingual and bilingual schools, building health centers, and introducing community radio stations. (PETROENERGY, 2021)

Preserving their culture and language is a priority for the Yawi community. The Yawi community has preserved oral, musical, artistic, and spiritual traditions and has transmitted them to new generations. The Yawi community has preserved its native language, Kichwa napo-runa, as a part of the Quechua language family. The Yawi community emphasized the Andean-Amazonian vision, based on respect and harmony with nature and living beings, and its millenary techniques for the treatment and extraction of the elements of minerals of interest. (Spitz & Trudinger, 2002), (Spitz & Trudinger, 2019)

In conclusion, the Yawi community has demonstrated a great

capacity for adaptation and change in the face of the challenges of the current situation. This growth profile is based on a balanced economic development, legitimate use, and identity establishment. (Nesticò et al., 2024)

## 4.4. Impact of legal mining in the surrounding regions.

Legal mining is an economic activity that has a significant impact on the communities surrounding its operations. Mining can create jobs and economic opportunities for local communities, but it can also negatively affect human health, the environment, and quality of life. (Boussalis & Coan, 2016)

In terms of health, exposure to toxic chemicals used in mining can have adverse effects on human health, including respiratory diseases, cancer, and other health problems. Mining can also have negative impacts on water quality, and local biodiversity, and even geomorphology problems have been detected in mining areas. (Cuesta et al., 2023), (Cuesta et al., 2023)

Economically, mining can create jobs and economic opportunities for local communities, but it can have a negative impact on the local economy. For example, mining can negatively affect low-income people by increasing the prices of local goods and services. Today, it is important for mining companies to work with local communities to reduce the negative impacts of mining and maximize the economic and social benefits. Some of these good examples are: (Economy, 2020)

Lundin Gold has created a group led by the GAD Los Encuentros for this purpose. When the company arrived in Los Encuentros (Zamora Chinchipe), where Fruta del Norte is located, they found a lack of knowledge and quality work. They created a special graduation plan to help adults complete their studies. At the time, the Ministry of Education and the Ministry of Mines and Minerals were involved in the project. Three hundred people have graduated, some are still going to university, and others, after

Completing the second part of their studies, have worked as heavy machinery operators in a Lundin factory.

It should not be forgotten that Covid was a challenge for education. Schools were closed and teachers tried to teach nearby, but the community had no Internet. Lundin, the Ministry of Communications, the municipality, and other local associations created the Somos Conectados project. As a result, schools now have better Internet access for teachers. All rural communities and tourist centers have free fiber optic and Wi-Fi access points. (PETROENERGY, 2021)

Similarly, in Imbabura, ENSA, the SolGold subsidiary that owns Cascabel, has five projects underway. According to Lilian Layedra, community exploration management coordinator, the Cascabel project includes advanced exploration and economic evaluation. In the two dioceses of Lita and Carolina, in the province of Ibarra, there are 10 communities. ENSA implements the plan in consultation with local governments, affected communities, and other stakeholders. The five main programs are information and communication, health, education, publications, and social and cultural activities. The first is considered one of the most important. It helps the population acquire mining knowledge and have information based on well-constructed criteria, according to Layedra. This property contemplates a joint plan for 1,700 students of both communities and the Ibarra Council.

In the health area, the committees of Lita and La Carolina were integrated and supported the brigade in the installation and presentation. Medical facilities and equipment were provided. In education, the 'Vamos a la U' project was developed, which allowed one of the national universities to establish a branch in the region, where students can follow technical and professional activities and participate in Cascabel. In 2021, $1.3 million was spent on social assistance and a gradual growth was executed in the subsequent years. (Economy, 2020)

## 4.5.  Initial situation of the Warints community

The Escuela Superior Politécnica de Chimborazo (ESPOCH), with the help of professors and students from the Morona Santiago branch of the Multidisciplinary research project, conducted a census in the Warints community in 2021. Thanks to this, the relevant information

is generated to corroborate what was determined in the baseline of the community; the same process was executed in collaboration with the company Lowell Mineral, which provided air mobility for ESPOCH researchers. The following are some of the most representative points visualized in the information survey: (Research Project, 2022)

### 4.5.1.  Population

Starting from the data taken from the Population, Housing, and Resources Census of the year 2021, conducted by the geology area of the Lowell company, 96 families with a total of 471 people were registered. In 2022, with the Population, Housing, and Productive Resources census in the community of Warints Center, 109 families were registered, a total of 507 people residing there. In conclusion, the Warints community has a growth rate of 8% from the population census. (Chart 4.1)

**Figure. 24.**  Population growth Warints Community
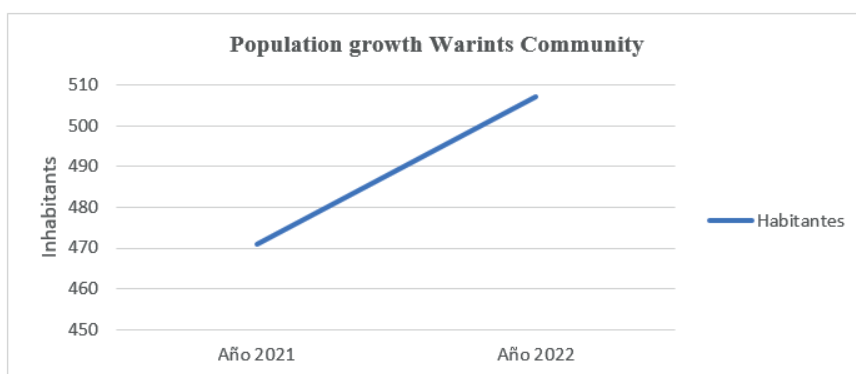


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

About the number of people living per household, it can be determined that there are families that live together with six people, followed by those that live between 3 and 4, which means that most of the families live together, but there is no social section.

## 4,5,2. Distribution of the population by age group and gender

The distribution of the population at the community level by age group and gender moderately shows the so-called "youth population" process, which shows a high percentage of the infant and adolescent population, with 42% of the population between 0 and 14 years of age, followed by youth between 15 and 29 years of age with 32%, which constitutes the workforce. Finally, we have the most vulnerable group of people of mature age between 30-75 years, which corresponds to 26% of the community.

**Table 4** Warints population distribution.

| Age | Population | % |
|---|---|---|
| 0-14 years | 215 | 42% |
| 15-29 years | 160 | 32% |
| 30-44 years | 74 | 15% |
| 45-59 years | 40 | 8% |
| 60-74 years | 17 | 3% |
| 75-years or more | 1 | 0% |
| **Total** | **507** | **100%** |

Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

From the analysis of the gender composition of the population through the number of inhabitants determined by the census, by male and female gender, we have values of 265 and 242 people respectively, which gives a higher percentage to the male gender with a total of 52%.

The 2022 census states that the male-to-male ratio in the population of the Warints downtown community was 110 males for every 100 females.

The population distribution according to age and gender indicates that the female gender predominates between 0-14 years with 45%, followed by ages 15-29 years, maintaining a not very considerable variation of the male and female gender of 31% and 32%, respectively.

**Figure. 25.** Distribution of the Population in the Warints Community by age and sex
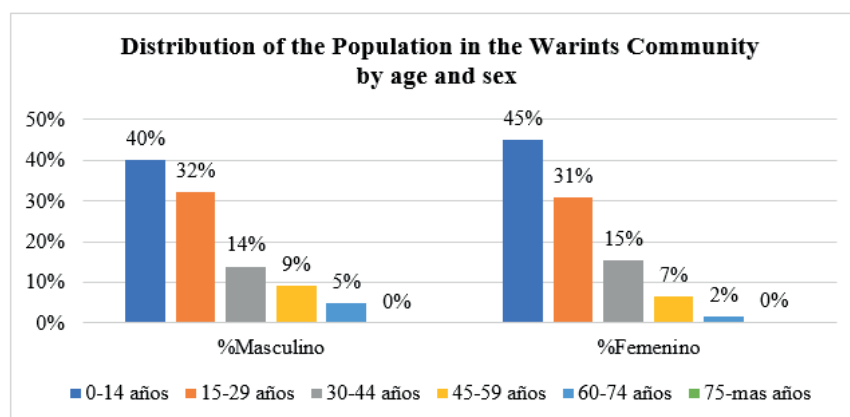


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

### 4.5.3. Emigration

The 2022 census recorded that the population has migrated to several provinces in Ecuador, such as Orellana and Azuay, and considers the population that left the country to places such as Brazil and Argentina.

### 4.5.4. Rites or Traditions

The data referring to people practicing ancestral rites was analyzed as a reference to each family inquiry and it was determined that there are 13 people for every 100 who practice ancestral rites, 59% of the population practices them; only 41% no longer do so. The population of 287 and 199 inhabitants, respectively, were found to be practicing and not practicing ancestral rites. Data was analyzed stratified; therefore, both the Tsantsa and Anent practices are no longer followed.

### 4.5.5. Self-identification according to culture and customs

The results of self-identification according to culture and customs indicate that the Shuar population is 482 inhabitants, equivalent to 99.2%.

**Table 5.** Warints Autoidentification.

.

| Autoidentificación | Población | % |
|---|---|---|
| Shuar | 482 | 99,2% |
| Ashuar | 0 | 0,0% |
| Mestiza | 4 | 0,8% |
| **Total** | **486** | **100,0%** |

Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

In the 2022 census, in the structure of the community, by self-identification according to their culture and customs, it is observed that a large part of the population over 99.2% self-identified as Shuar, followed by the population that self-identified as Mestizo(a) with 0.8%, therefore, the Shuar ethnic group predominates in the community.

### 4.5.6. Activities at home

To analyze the activities at home, it was considered the total male population, and it was determined that the most executed activity was working in the field, cleaning bananas, and bringing firewood. To analyze women's activities in the household, the total female population was considered, and it was found that the most frequently performed activities were cooking, sweeping the house, and washing. Among the most commonly practiced activities among families, 105 families (76.19%) visit their relatives frequently, bathe in the river, and play traditional games. Of the total number of families surveyed, the availability of participation in mingas with the members of the household was consulted, showing a considerable percentage of "Yes" answers, with 95.24%; on the other hand, 4.76% do not participate in mingas.

### 4.5.7. Education

In the center of Warints, the total population is 486 inhabitants of which 52% are going through the educational process and 48% have stopped studying, are not studying, or are not yet in school. According to the highest level of education of each inhabitant, the following percentages were determined: no reading or writing (6%), only reading (1%), literacy (7%), initial education (0%), basic education (55%), high school (55%), college (26%), postgraduate master's degree (1%) and PhD-PhD (0%).

**Figure. 26.** Level of Studies in the Warints Community.
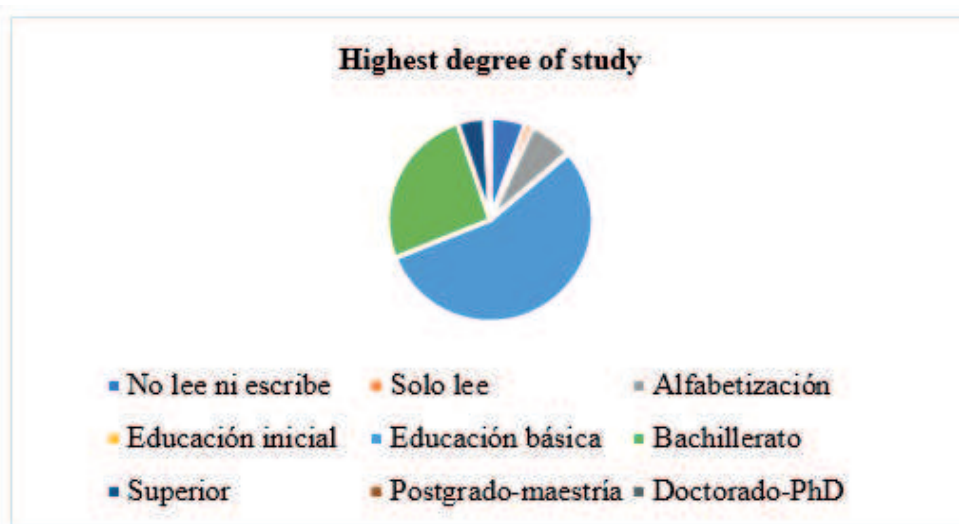


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

Regarding the distribution of the population by the highest level of education and age, the highest percentage (29%) attended or attended basic education between 0 and 14 years of age, followed by ages 15-29 years with a percentage of 13% and 14% corresponding to high school and basic education respectively, the minimum educational conditions were initial education, Postgraduate-Master's and Doctorate-PhD, considering that 6% of the population is pursuing higher education. (Chart 4.4)

**Figure. 27.** Distribution of the Level of Studies in the Warints Community.
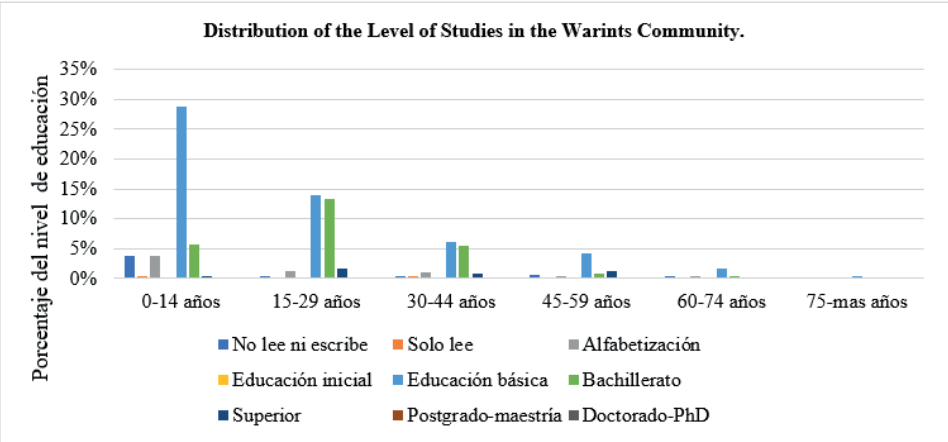


Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

In addition, the type of educational establishment and the place they attended was determined, giving as the most weighted percentage the "Fiscal" with 75% of the total population, while most of them attended a "Fiscomisional" establishment with 21%,

the remaining percentage went to private, municipal establishments, such as the center of Warints, with 67% of the population, followed by Macas, Limón, and Sucúa, with 8%, 7%, and 6%, respectively.

Regarding illiteracy, the highest figure is found among the population between 60 and 74 years of age, with 33% of the total number of people who cannot read or write. Similarly, to determine the community's capacity to interact with new technologies, the use of technology was diagnosed using cell phones, computers, and tablets, with the following percentages: 47% use cell phones, and 53% do not use them.

### 4.5.8. Distribution of the population sex and age of dropouts

About the male and female genders, the average dropout rate for women was 50% and 50% for men. The average age of dropouts, according to the data, is 17 years old.

### 4.5.9. Access to technologies in the center

The number of people who had internet service was analyzed, and it was determined that 75% of the families do not have access from their homes, and only 25% do. It was also established that of the total number of families, 71% do not have a computer, 24% have one, 2% have "two" or "three" computers, and 1% have five computers.

### 4.5.10. Health

Climatic conditions, poor nutrition, precarious housing conditions, poor waste management, lack of basic services such as drinking water and sewage, among others, are factors that have a direct impact on the health of the community's inhabitants, which can lead to the proliferation of diseases such as contagious, intestinal, respiratory, nutritional, traumatic and malaria diseases, among others.

In the Warints community, 81% of the inhabitants use general medicine to treat their health problems, while 19% prefer alternative and ancestral medicine.

On the other hand, 72% of the population indicates that there have been health campaigns and agree that medical attention is good and has been provided by the Lowell company and the Ministry of Public Health.

Regarding the acquisition of medicine, 55% of the population indicated a place to access it, while 44% mentioned no place for their acquisition. The place where medicine is acquired is shown in Table 4.3 below:

**Table 6.** Place of purchase of the medicine.

| Place | Families | % of families |
|---|---|---|
| Subcenter | 72 | 69% |
| Pharmacy | 26 | 25% |
| Consulting room | 7 | 7% |
| **Total** | **105** | **100%** |

Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

### 4.6. Initial situation of the Yawi community

Similarly, the Multidisciplinary Project gathered relevant information to corroborate the baseline of the Yawi community. Some of the most representative points visualized in the information gathering were: (Research Project, 2022)

### 4.6.1. Population

The distribution of the population by sex residing in the Yawi community is 217 inhabitants, 53% of whom are men and 47% are women. The gender subdivision of the population can be analyzed through the number of inhabitants determined by the census, both male and female, giving values of 115 and 102 people respectively, which confers a better influence on masculinity.

### 4.6.2. Population distribution by age group and gender.

The distribution of the population at the community level by age group and gender moderately shows the so-called "youth population" process, which provides a high percentage of the infant and adolescent population, with 41% of the population between 0 and 14 years of age, followed by youth between 15 and 29 years of age with 35%, which

constitutes the labor force. Finally, the most vulnerable group, 23% of the community, corresponds to the category between 30-75 years. (Table 4.4).

**Table 7.** Yawi Population Distribution

| Age | Population | % |
|---|---|---|
| 0–14 years | 90 | 41% |
| 15–29 years | 76 | 35% |
| 30–44 years | 34 | 16% |
| 45–59 years | 14 | 6% |
| 60–74 years | 2 | 1% |
| 75–más years | 1 | 0% |
| TOTAL | 217 | 100% |

Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

The 2022 census establishes that the male-to-male ratio in the Yawi center community was 113 males per 100 females.

The distribution of the population, according to age and gender indicates that both genders predominate between 0-14 years of age with 48%, followed by ages 15-29 years, with a not very considerable variation between male and female genders of 30 and 41%, respectively.

### 4.6.3. Emigration

Eight people emigrated to the rest of the cantons. The reasons of the 29 people who emigrated were analyzed, where the most important causes were because of the job (26%) and the rest for family and other reasons.

### 4.6.4. Rites or traditions

61% of the community of Yawi practices ancestral rites, and 39% do not practice ancestral rites.

### 4.6.5. Population by self-identification according to culture and customs

In the 2022 census, in the structure of the community, by self-identification according to their culture and customs, it is observed

that a large part of the population, self-identified with the Shuar culture with 98.8% (168 people); therefore, this culture predominates in the community, followed by the population, that self-identified with the Ashuar culture and mestizo with 0.6% (1 person), of the 170 inhabitants of the Yawi community.

### 4.6.6. Activities at home

In the community of Yawi, 32 families cook and clean the vegetable garden (88.89%), followed by sweeping the house (83.33%), taking care of the animals (80.56%), and making chicha (75%). In the community, three sports are commonly practiced; such as indoor, volleyball, and soccer with 88.24%, 17.65%, and 5.88%, respectively. All the inhabitants of the Yawi community, 36 families in total, actively participate in the mingas, representing 100%.

### 4.6.7. Education

In the center of Yawi, the population that is studying is 79 inhabitants of which 46% are going through the educational process, and 54% have stopped studying, are not studying, or are not yet in school. According to the highest level of education of each inhabitant, the following percentages were determined: no reading or writing (11%), only reading (2%), literacy (12%), initial education (18%), basic education (45%), high school (10%), college (2%), postgraduate master's degree (0%) and doctorate-PhD (0%)

**Figure. 28.** Studies Level Distribution in the Yawi Community



Source: (IITMS Research Group – ESPOCH Sede Morona Santiago, 2022)

The 2022 census established the male-to-male ratio in the community of Yawi, which was 113 males per 100 females.

Regarding the population distribution by their highest level of education and age, the highest percentage (45%) attends or attended the basic educational level between 0 and 14 years of age, followed by the age between 15-29 years with a percentage of 15% and 14% corresponding to the levels of high school and elementary education, the minimum educational conditions were initial education, Postgraduate-Master's and Doctorate-PhD, considering that 6% of the population is studying at the higher education level.

In addition, it determined the type of educational establishment and the place where they attended, giving as the most weighted percentage the "Fiscal" with 57% of the total population. On the other hand, most of them attended a "Fiscomisional" establishment, 38% of the remaining percentage went to private establishments, 4% of the population and municipal with 1% in the places of Warints, Yawi, and Limón Indanza.

### 4.6.8. Distribution of the population sex and age of dropouts

The average age of dropouts, according to the data, is 17 years old. The average age for dropping out of school is between 11 and 15 years, with a percentage for both men and women of 33.50% and 29.61%, respectively.

### 4.6.9. Accessibility to technologies in the center

The number of people who had internet service was analyzed, and it was determined that 89% of the families do not have access from their homes, and only 11% have it. It was also established that of the total number of families, 72% do not have a computer, 28% have "one" and 0% have "two, three, and five" computers.

### 4.6.10. Health

In the community of Yawi, 89% of the inhabitants indicated that there is medical attention, while 11% stated that there is no medical

attention. Regarding the quality of care, 61% denoted that it is good.

On the other hand, when there are health problems, 83.3% of the population go to general medicine, while 16.7% go to alternative medicine. 53% of the population mentioned that health campaigns are carried out in the community; in this case, 88.2% indicated that they are carried out by the Ministry of Public Health, while 11.8% stated that they are organized by Lowell Mineral.

Finally, concerning the acquisition of medicine, 59% of the population indicates that they acquire medicine at the sub-center, 37% acquire it at the pharmacy, and only 2% acquire it at the doctor's office.

## 4.7. Arrival of mining in the communities of Warints and Yawi

Mining, when managed responsibly and in collaboration with local communities, can have a significant and positive impact on the surrounding areas. In the case of the Warints and Yawi communities, the strategic alliance with Solaris Resources Inc. and its subsidiary Lowell Mineral Exploration Ecuador S.A. has allowed for the Warintza Project development, which has brought tangible benefits to the local inhabitants. This collaboration has reportedly generated employment for most residents, with 94% of project workers coming from neighboring communities, reflecting a commitment to inclusion and local economic development. In addition, 83% of the project's suppliers are from the province of Morona Santiago, fostering business growth in the region.

The community engagement model adopted at Warintza, inspired by similar practices in Canada, is based on principles of transparency, participation, and good-faith dialogue. This approach has allowed both the company and the Shuar communities of Warints and Yawi to benefit from each other. The Alliance Board, composed of Shuar leaders and company executives, has been instrumental in consolidating this relationship, ensuring that the needs and concerns of both parties are heard and addressed.

The positive influence of mining in these communities also extends to infrastructure and essential services. The income generated has helped sustain crucial aspects such as health, food, and education, areas that previously lacked sufficient support. In addition, mining has provided an alternative source of income for residents, such as hiring horses to transport supplies to mining camps, demonstrating the economic diversification that can arise from such projects.

It is important to note that the success of such mining initiatives depends on a continued commitment to respecting the rights and culture of Indigenous communities, as well as sustainable environmental practices. The case of Warints and Yawi is an example of how mining and community development can move forward hand in hand, creating a development model that can be replicated in other regions with similar conditions.

From the year 2021, through the Multidisciplinary Research Project called: "Characterization and Management of the Biophysical Systems of the Warints and Yawi Communities for the Generation of Resilient Productive Chains for Sustainable Development" the Escuela Superior Politécnica de Chimborazo from its headquarters in Morona Santiago together with the company Lowel Mineral, establish a baseline of the conditions and livelihoods of the inhabitants of the communities of Warints and Yawi. (ESPOCH, 2021).

This survey was carried out using surveys that allowed establishing the main conditions of the citizens of the sector at the date of the study; this allowed understanding of the main limitations and difficulties of the citizenship of these ancestral people, and framing a work route with a view to sustainable local development from the partitions and royalties resulting from the mining exploration activity; being these information surveys those who corroborated the baseline of these peoples and communities, mainly in Warints and Yawi.

Within the framework of these agreements between private mining companies, universities, and community leaders, various

research inputs are promoted and created that allow the respective communities to be visualized on the world map and, on the other hand, show the public new cultures, diversities and specific customs of the peoples that are now being positively influenced by mining. One of these products, as well as the present work, is the book "Etnias de la Amazonia de las Comunidades de Warints y su Cadena

Productiva" written by the authors (Toledo et al., 2023). (Toledo et al., 2023) documents that are part of the investigative development of the Warints and Yawi communities.

### 4.7.1. Sustainability Pathways of the Warints and Yawi Communities.

The communities located around the Warintza Project, such as the inhabitants of Warints and Yawi, are being driven through eight sustainability pathways that frame their path toward sustainable development and thinking about the welfare of their people and communities. These sustainability pathways, which govern the impulse that the arrival of mining proposes for Warints and Yawi are:

Quality education. Support learning so that all men, women, and children have a quality education that gives them better opportunities in life.

Gender equality. Promoting that women and men receive the same treatment and the same opportunities so that everyone can decide in the life of the home, in the community, and in politics.

Decent work and growth. Encourage everyone to have a formal and secure job that allows them to improve their lives and those of their families.

Industry, innovation, and infrastructure. Generating a better quality of life for all inhabitants through the construction of community works and access to information technologies that respond to their needs.

Reduce inequalities. Promote inclusion, respect, equality, and equal opportunities for everyone.

Responsible production and consumption. Be responsible with using the thing, reducing waste generation, and recycling.

Life of terrestrial ecosystems. Ensure responsible work contributing to the forest's preservation, land, and biodiversity.

Peace, justice, and solid institutions. Do everything possible to have a society in which the statutes, assembly resolutions, consultations, customs, and traditions are based on transparency, participation, and dialogue in good faith as a way of life in the community.

### 4.7.2. Positive Impacts of the Warintza Mining Project

The Warintza mining project has significantly impacted the communities of Warints and Yawi, both Shuar communities in the province of Morona Santiago, Ecuador. Let me share some details about this situation:

Strategic Alliance:

The Canadian company Solaris Resources Inc. and its local subsidiary Lowell Mineral Exploration Ecuador S. A. have established a strategic alliance with the Warints and Yawi communities to develop the Warintza Project.

This alliance is based on similar experiences developed in Canada, demonstrating an inclusive and collaborative approach.

### Benefits for the Communities:

The inhabitants of Warints and Yawi have experienced improvements in their quality of life thanks to the mining project.

Homero Papuel, a resident of Warints, mentions that work used to be scarce, but now, thanks to Lowell, he has been able to support his children's health, food, and education. In addition, he earns income by renting his horses to load food and supply the mining

camps.

Mining has provided employment and economic opportunities for local communities.

**Monthly Meetings:**

To reach a consensus on the needs of the company and the communities, the board of directors of the Strategic Alliance holds monthly meetings.

It allows any concerns or challenges to be addressed collaboratively.

Mining can be a controversial topic; in this case, the partnership between the company and the communities has allowed for more sustainable development and tangible benefits for the local inhabitants.

### 4.7.3. Cases of improvement of the Warints and Yawi Communities due to the arrival of mining in the area

The following information is based on the areas and infrastructure improved by Lowell Mineral in the community of Warints and Yawi, and reported by Ms. Heredia & Ms. Petsain (2022). Heredia & Petsain (2022) in their thesis entitled "THE INVESTMENT OF LOWELL MINERAL EXPLORATION ECUADOR S.A. AND ITS CONOMIC IMPACT IN THE WARINTS AND YAWI COMMUNITY".

They define some components and consider how they positively affect the community, such as Health, Education, and Local Infrastructure.

**Health:**

Investments in the health sector contribute to the production of social and economic benefits. Governments that do not pay sufficient attention to this sector will find it difficult to achieve long-term economic prosperity and growth. In 2020, Lowell Mineral Exploration donated two fully equipped container-type health centers in the Warints and Yawi Shuar communities to the Ministry

of Health, helping build sector infrastructure and access to health services, fulfilling the Alliance's strategy to improve health services.

**Figure. 29.** Warints Health Subcenter, Before and After the arrival of Mining



Source: (Heredia & Petsain, 2022)

Lowell Mineral Exploration Ecuador S.A., a private company, is one of the pioneers in securing and exploiting these rights, offering socioeconomic support to young people from the Warints and Yawi communities to realize and improve their rights. University studies in various public or private institutions in the country. This scholarship consists of 100% financing of university studies. It is carried out in the same community (Image 4.2).

**Figure. 30.** Scholarship holders from the Warints-Yawi Community.



Source: (Heredia & Petsain, 2022)

By signing an agreement with the community, Lowell Mineral Exploration Ecuador S.A. is committed to working with the community, the company, and the country. Therefore, according to the contracts, it was responsible for creating an infrastructure that would improve quality and affect students in these areas.

**Figure 31.** Infrastructure of school classrooms and desks, Before and After the arrival of Mining



Source: (Heredia & Petsain, 2022)

Additionally, in the community of Warints, it can be observed that before, there was no municipal mayor's office infrastructure.

However, considering the presence and agreements reached, social projects and infrastructure provision were addressed through a strategic alliance created by the needs of society. Its establishment allows citizens enough space to organize meetings and social and cultural events (Image 4.4).

**Figure. 32.** Communal house infrastructure, Before and After the arrival of Mining





Source: (Heredia & Petsain, 2022)

Similarly, the maintenance and construction of the bridge is one of the key factors to continue the community's change towards a better quality of life, allowing the safe transportation of people and goods and facilitating the movement of residents and goods of the communities.

**Figure. 33.** Mantenimiento de Puente sobre el rio Warints y Yawi.



Source: (Heredia & Petsain, 2022)

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