

# LORETO

## VISIÓN CONJUNTA AL 2050

## SHARED VISION FOR 2050



## About GeoAdaptive

GeoAdaptive is a global consulting, strategy, and development planning technology company. It specializes in solving complex economic, environmental, and social issues across various industries and scales using advanced spatial intelligence technologies and analysis. By integrating data and location analysis, spatial econometrics, design, and planning, we develop strategies for our clients worldwide, reducing their risk and maximizing opportunities for inclusive and sustainable growth.

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## Abbreviations

**NPA:** Natural Protected Areas

**CONANP:** National Commission of Natural Protected Areas

**FONATUR:** National Tourism Promotion Fund

**INEGI:** National Institute of Statistics and Geography

**MODIS:** Moderate Resolution Imaging Spectroradiometer

**PNBL:** Bay of Loreto National Park

**PMDUL:** Urban Development Municipal Plan

**SEDATU:** Agrarian, Territorial and Urban Development Secretariat

**SMN:** National Meteorological Service

**REAL:** Network of Environmental Educators of Loreto

**UABCS:** Baja California Sur Autonomous University

# Limitations

## Data Quality

A limited dataset was used, including various sources such as open-source databases (MODIS, SENTINEL, LANDSAT), vector data from OpenStreetMap, and local data from INEGI. Rigorous quality control was conducted throughout the product delivery process.

## Scale Dependency

A limited number of scales were chosen to represent the results. The municipal scale covers the entire municipality of Loreto, including the Bahía de Loreto National Park (PNBL) and the islands. The city scale corresponds to the urban area of Loreto. These scales are determined by the granularity and resolution of the data.

## Data Accessibility

Limitations are associated with data availability, stemming from data ownership or privacy protection challenges. The team used freely accessible data from various global and local official databases to address this issue. The team prioritized data accuracy and integrity, so the data sources representing past conditions may span from 2000 to 2005, and those representing current conditions may span from 2000 to 2023. Obtaining updated information from the Municipal Urban Development Program (PMDUL) with relevant information on land use, protected areas, densities, etc., was not possible. Therefore, the scenarios developed in the workshop were based on participants' knowledge but lacked the support of the legal document indicating permitted uses for each zone, urban area limits, protected areas, densities, etc.

## Information Gaps

In cases of information gaps, proxies and alternative datasets were used. For instance, population censuses underwent a "downscaling" process using World Pop information and official census data to ensure the best fit, granularity, and accuracy of the data.

## Accuracy in Urban Classifications and Land Use

The accuracy of classifications heavily depends on the outcomes of automatic classifications. The results were influenced by model training points, the granularity of satellite images, and manual refinement.

Manual training involved placing points to guide the model in distinguishing between categories. The accuracy of training points depends on satellite detail. Manual refinement consisted of a detailed review of classification results and the removal of pixel impurities, with manual adjustments based on satellite imagery from the corresponding year.

## Reference and Validation

References include images from Google Earth Pro, Sentinel, and Landsat. The overall accuracy for land use classifications in 2003 was 0.77. An overall accuracy of 0.77 for that year indicates that 77% of the pixels or data points classified for that year were accurate compared to the reference data. The overall accuracy for land use classifications in 2023 was 0.91. An overall accuracy of 0.91 for that year means that 91% of the pixels or data points classified for that year correctly matched the reference data.

### Methodology of Participatory Exercises

Workshop participants engaged in a series of presentations, group discussions, narrative writing, and scenario mapping for the municipality. It is important to note that the maps and diagrams in this report represent the consensus of topics covered in the workshop, selecting those mentioned by two or more groups. Topics mentioned by only one group are included in the report but are not part of the synthesis diagrams or maps. Fragility/importance and frequency/impact diagrams were created by placing locations, activities, and/or change drivers in the quadrant where participants' responses repeated the most. Therefore, the diagrams are an interpretation of the exercises conducted by workshop participants.

### Cartographic Representations

Cartographic representations are a synthesis of the results obtained from workshop activities. The activities were conducted at the two cartographic scales: a municipal scale and a city scale for Loreto. The maps included in this report are the result of the exercises performed. To create the maps and diagrams in the report, information from the five groups was compiled, and places and concepts used were selected if they were present in at least two groups. In some cases, additional information or topics unrelated to the activity were included in the maps, making it challenging to analyze by theme because drawings, zones, or comments outside the theme were part of the map. For example, in Activity 1, which aimed to mark on a map the most valuable places in Loreto, maps also included concerns such as drug addiction problems, waste issues, opportunities for urban densification, and aquifer recharge projects. While these aspects are important, they do not correspond to the valuable places and activities of Activity 1. Limitations related to

drawing and mapping exercises are related to the low precision of demarcated areas or, in some cases, only using post-its without being able to graphically represent how this change driver or trend appears on the map.

# Introducción

## Biodiversidad marina y terrestre de Loreto

El departamento de Loreto sostiene:

- ✓ turismo
- ✓ pesca
- ✓ Agricultura

Además, tiene un valor:

- ✓ cultural
- ✓ estético
- ✓ personal





## Context for Loreto

The Municipality of Loreto is located in the central part of the Mexican state of Baja California Sur, surrounded by a variety of landscapes such as the Sierra de la Giganta and the Gulf of California.

The municipality has 127 localities and 7 municipal sub-delegations, including iconic towns, fishing communities, and a variety of beaches. The Bahía de Loreto National Park (PNBL) stands out, established in 1996, protecting 2,000 km<sup>2</sup> of the Gulf of California and the 5 islands off the coast of Loreto. The insular environment is characterized by high endemism of plant species, insects, reptiles, and mammals. The oases of Loreto and San Javier are notable. Approximately 1,385 species of marine flora and fauna have been recorded in the PNBL. It is recognized for its natural beauty and conservation efforts.

The municipal seat is the city of Loreto, located 356 km north of La Paz, the capital of the state of Baja California Sur. Founded in 1697 along with the establishment of missions, including the Mission of Our Lady of Loreto, the church and museum are elements of high historical and cultural value and are part of the historical center of Loreto.

In 2012, the community of Loreto joined the "Pueblos Mágicos de México" program with the purpose of further promoting tourism in the region, highlighting its valuable cultural and historical heritage, as well as its unique marine environments for various activities, thus promoting sustainable tourism in the region.



Figure 01: Base maps at urban and regional scales.

## About the Participatory Workshop

To catalyze dialogue between key stakeholders and the government responsible for implementing planning initiatives, EcoAlianza, the Institute of the Americas, and GeoAdaptive designed a participatory workshop with 41 representatives from various sectors in Loreto. The first day was dedicated to identifying trends in Loreto's growth, drivers of change, and elements highly valued by society. With this information, on the second day, participants reflected on the future of Loreto by creating a baseline scenario and a desirable one. The objective was to reach a consensus on the direction in which Loreto residents would like to steer the future of the municipality.

Loreto's natural and human capital form the foundation for building and strengthening community resilience in the face of environmental, economic, and social challenges. Creating spaces where citizens can contribute their knowledge and experience is valuable as it provides inputs for the design of development plans. The cultural and natural value of the region has made the entire municipality an attractive place for vacationing or living. This, coupled with the long history documenting the connections that residents have with their environment and the dependence on environmental health for economic well-being, reinforces the idea that the vision for Loreto should be collaboratively built through transparent and inclusive processes.

In 2005, the Harvard Graduate School of Design led a binational and multidisciplinary team of experts in the research project "Alternative Futures for the Loreto Region, Baja California Sur, Mexico." Faced with real estate speculation and the lack of a strategy for orderly growth, the experts addressed the question of how economic

performance, demographic changes, private and public investments, and policy decisions could influence urban growth and land use change in the municipality of Loreto from 2005 to 2025. The study aimed to support the government with information to assess the regional development plan and identify possible modifications to ensure the well-being of the region's inhabitants and the sustainability of terrestrial and marine ecosystems.

Much has changed in the municipality of Loreto since the publication of the study. Unexpected natural, political, and economic events led to a new reality that did not necessarily align with the scenarios identified 20 years ago. Some of the urban challenges considered more imminent changed, and several projects from various developers did not materialize. Climate change was not as pressing an issue to consider at that time. The emergence of the collaborative economy in the tourism sector has altered economic and environmental pressures while bringing new models of sector development.

These sudden and unexpected events have posed a challenge for the authorities and residents of Loreto. One of the most difficult tasks has been finding solutions to energy and water access needs. The study on Alternative Futures foresaw that Loreto would face the depletion of groundwater resources in the San Juan Londó aquifer and the intrusion of saltwater into public wells by 2025. However, with climate change and increasing pressure on ecosystems and natural resources, these issues have intensified.

Loreto is once again at a critical juncture where it must address the needs of its population and find a balance between harnessing and conserving the

natural resources on which it depends. In addition to concerns identified 20 years ago, there is now a greater demand for energy, poor waste management, a growing water crisis, and the impacts of climate change. The demand for public services exceeds the government's economic capacity, affecting the quality of life for Loreto residents. This, in turn, poses an obstacle to the development of resilient governance that enables communities to adapt to the social, economic, and environmental changes they face.

As Loreto looks to the future, doubts persist about the sustainability of the municipality's growth. Loreto has the smallest population in the state, but its growth rate places it second after Los Cabos. While the population was around 11,000 in 2000, by 2020, it had risen to just over 18,000. Although the growth rate has fluctuated considerably, likely because of global events, including the COVID-19 crisis and variability in the foreign floating population, the demand for resources and infrastructure is on the rise. The COVID-19 pandemic brought about structural changes in the community. Families faced unemployment and income loss, leading to emigration in search of job

opportunities. Despite these changes, in recent years, Loreto has repositioned itself as an attractive place to live permanently or temporarily, catalyzing development again to meet the demand for housing and hotel rooms. However, existing norms and plans are not addressing the needs of the population and are not designed to respond to current environmental challenges. Faced with the new reality of the municipality, citizens can contribute by organizing to support the government in evaluating and designing a plan that defines urbanization limits and determines land use based on a common vision.

Having the necessary information and tools will enable the government, civil society, and the private sector to design development strategies that ensure a sustainable, resilient, and inclusive future, addressing the needs of both the permanent community and those who visit the region seasonally. Understanding the impacts of excessive development and resource consumption promotes citizen organization, fostering alliances and driving initiatives that contribute to the development planning processes in the municipality.

## Description of Activities

The workshop was designed to create a space for discussion, collaboration, and consensus-building among key stakeholders in the region to inform Loreto's vision for 2050. Its main objective was to address challenges related to a changing environment and the sustainability of its future growth.

Participants (see Annex 1 for a list of participants) included:

- Representatives from municipal services such as the Municipal Operating Body for Sanitation, Drinking Water, and Sewerage, Recycling Coordination, and Ponguinguola / Desplastificate Alliance.
- From the Department of Urbanism, Housing, and Infrastructure, representatives from the National Tourism Development Fund (FONATUR), the Ministry of Agrarian, Territorial, and Urban Development (SEDATU), the College of Architects, and the Solid Waste Commission participated.
- The economic sector was represented by the Loreto Tourism Department, the Association of Hotels and Tourism Service Providers, the Hotel Alliance of Loreto, the Sub-Committee for Sustainable Fishing and Aquaculture of Loreto, Puerto Escondido Marina, the Secretary of Tourism, Economy, and Environment, Newman Advisors, and the Tourism Guides Association.
- The environmental management sector was represented by members of the Autonomous University of Baja California Sur (UABCS) Loreto, the National Commission of Natural

Protected Areas, the Environmental Educators Network of Loreto (REAL), and the San Basilio Turtle Group. The area of threats and risk management was represented by members of Civil Protection of Loreto, the National Meteorological Service, and UABCS.

- The culture and society sector were represented by members of the Conservation and Protection Committee of the Historic Center of Loreto, REAL, and the Education Department of the Loreto City Council.

Participants heard the results of the analysis of current conditions, which included data on historical conditions, changes, and trends experienced by the municipality. Additionally, during the workshop, a presentation was given on a study conducted in Puerto Agua Verde, focusing on the current state of marine biodiversity, and another presentation provided updates on the Urban Development Plan currently being developed.

The start of the Loreto 2050 Workshop focused on identifying the areas most valued by the residents of Loreto and the most crucial trends affecting the region today. In a planning process, it is crucial to identify the areas most valued by the community as they often define the character of the place. The first activity of the workshop aimed to address the question: What is the most valuable aspect of Loreto? To answer this question, participants identified on a map the places and activities most valued by the Loreto community. Each of these places was classified according to its level of



importance to the community and its level of fragility.<sup>1</sup>

To imagine and project the future changes of a region, it is essential to identify, explore, and locate the key conditions that could impact future development. The second activity focused on answering the question: How can what is valuable in Loreto be affected by drivers of change? Participants were invited to identify on a map the drivers of change that have had the greatest impact on the region's development in the last 20 years. The drivers of change were categorized based on their frequency and impact on the municipality.

A commonly used tool in planning processes is the development of scenarios, which refer to constructing possible paths of future development. The third activity centered on the question: What if nothing changes? This baseline scenario illustrates what could happen if no actions are taken for the management, conservation, restoration, and sustainable use of the environmental goods and services provided by ecosystems. Projections of behavior, trends, and environmental risks are established based on historical processes and events, as well as the components and factors of social and territorial reality, creating a vision of what could happen in the region if it continues to develop as it has so far.

To conclude, the last activity invited participants to dream of a better future for Loreto by answering the question: What is the future we want for

Loreto? Their response involves the development of a desirable scenario, considering the protection of areas and activities valued by the residents of Loreto, thus creating a plan addressing existing challenges and enhancing necessary changes.

To structure the development of the scenarios, considering both the baseline and desirable scenarios, six key themes were defined, corresponding to the topics of the environment, housing and city, tourism, water, infrastructure, and public space.



Figure 02: Presentation of the Loreto 2050 Workshop. Loreto.

<sup>1</sup> Fragility: Refers to the ability of a place or activity to cope with a certain type of risk to which it is

exposed. It represents the degree of deterioration and the capacity for recovery.

# Valued places in Loreto





## What are the most valued places in Loreto?

In the planning process, it is essential to identify the most important and valuable places for the local community. These places and activities are unique and representative of the character and identity of Loreto, making them key to guiding the planning process. They help identify areas and activities that need protection to maintain Loreto's unique character.

Participants, divided into 5 working groups, through group discussions and participatory mapping, successfully identified the places and activities that hold high value for the community. Their level of importance and fragility was defined, and they were located on a map of the municipality and/or city as applicable.

As a result of this exercise, 27 places and activities were identified, with 11 places standing out. Consensus was reached within the groups regarding their relevance, and these places were mentioned by two or more groups of participants.

The selected places fall into three categories: (i) Culture and identity; (ii) Economic activities; (iii) Natural environment. Located throughout the municipality, in the mountains, central area, coast, and sea.

The maps and diagrams presented below represent the consensus on the places most valued by the Loreto community, both on the municipal and city scales.



Figure 03: Map of the municipality with the most valuable places identified by group 5.



Figure 04: Workshop participants highlighting the most valued places on a map.

# Findings

## Identified valued places.

Regarding culture and identity, valuable places are distributed across various sectors of the municipality. The missions stand out, with a particular emphasis on the town of San Javier, located in the mountains, and the historic center of Loreto, situated on the coast. These are part of the historical corridor of the old Spanish mission route, within which historical buildings and rock paintings hold significant value for both the residents of Loreto and tourists. The fishing culture also holds high value as part of the residents' identity and its economic importance. Noteworthy locations include the port of Agua Verde and other small fishing villages such as Tembabiche, Ejido San Nicolás, and San Basilio.

Regarding the natural environment, the unique marine and terrestrial nature is undoubtedly one of Loreto's greatest attractions. The diversity of natural attractions includes the Sierra de la Giganta, beaches, estuaries, and islands. Starting with the sea, the Bahía de Loreto National Park (PNBL), composed of a group of islands, hosts various economic and ecotourism activities and water sports such as fishing, diving, and kayaking. These activities are crucial in the nature tourism that the residents of Loreto seek to promote. The Sierra de la Giganta and its rock formations provide an ideal environment for hiking and mountain biking. One of the highlighted hiking spots is the Tabor Canyon, located south of Loreto, which accommodates tourist and recreational activities.

Concerning the city scale, the historic center stands out for its appropriate urban scale and the historical and cultural value of the church and mission museum. Natural attractions of different typologies are also highlighted: the El Bajo and La Negrita wetlands, coastal beaches, and the Las Garzas estuary. All of these are located on the coastal edge of Loreto.

Other places and activities mentioned in the activity by only one group include the Puerto Escondido area, the San Juan aquifer, San Telmo, wetlands (Ensenada BCS, Nopoló, mangroves, San Juanico), conservation of Isla Catalan, and hiking on Isla Danzante.

Various activities without a specific location were also mentioned, linked to the historic center, such as social cohesion, religious and civic activities, gastronomy, safety and tranquility, and local festivals.

The selection of places and activities is summarized in Table 1, which outlines the most valued places and activities based on the information collected in this participatory exercise.



## Mapping and Geographic Location of the Most Valued Places.

Table 01: most valued places and activities. Source: GeoAdaptive LLC and Loreto 2050 Workshop data.

Lugar / actividad de valor	1	2	3	4	5
<b>Cultura e identidad</b>					
Misiones de San Javier					
Centro histórico Loreto					
Cultura pesquera					
Agua Verde					
<b>Actividades económicas</b>					
Actividades de ecoturismo					
<b>Entorno natural</b>					
Acuífero San Juan Londó					
Sierra de la Giganta					
Playas					
Islas					
Biodiversidad marina					
Cañón de Tabor					
Esteros					

The places and activities were identified on a map by the participants. These represent the consensus on the most valued places by the Loreto community at both the municipal and city scales.

- At the municipal scale, the following main areas stand out: the sea and the mountains. In the sea, the Bahía de Loreto National Park (PNBL) is recognized as a key attraction, and its islands and ecotourism activities such as kayaking and diving stand out.
- At the city scale, there is a greater concentration of identified places in the city center of Loreto. Additionally, opportunities for densification were identified towards the south of Zaragoza. The wetlands located in the vicinity of the city, as well as the estuaries, were identified as areas with the potential to contribute to aquifer recharge.

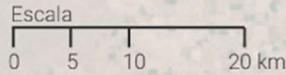
The maps resulting from the exercise contain the information gathered during the workshop and represent a synthesis and consensus regarding the most valuable places at the municipal and city levels. These maps allow visualizing where the highest concentration of identified places is located. The following map shows a synthesis and interpretation developed based on the places identified during the workshop.



# Lugares valiosos de Loreto

- Cultura e Identidad
- Actividades Económicas
- Entorno Natural

## Municipio Loreto



CONANP, Esri, HERE, Garmin, Foursquare, FAO, METI/NASA, USGS, EPA, NPS, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community



## Fragility and Importance of Valued Places.

The identified places were classified based on their fragility and importance. The fragility of the place and/or activity refers to its capacity to cope with a certain type of risk it is exposed to, representing the degree of deterioration and the ability to recover. The level of importance refers to the significance this place holds for the Loreto community and whether it is representative of Loreto's character (see Annex 1).

These conditions are important as they allow identifying the level of risk each of these places and/or activities is currently exposed to and the level of importance the Loreto community assigns to each one. With this information, the most critical places can be defined, and actions can be taken to prevent irreparable damage.

Among the places with the highest level of fragility and importance are natural attractions such as the Sierra la Giganta, estuaries, beach access, the islands of the Bahía de Loreto National Park (PNBL), and the marine biodiversity that this place hosts. This indicates that the workshop participants see natural attractions as important areas that, if intervened, are exposed to a high probability of deterioration and low recovery capacity.

Another crucial and highly fragile issue is the availability of water in the future, which is directly related to the San Juan Londó aquifer and its high risk of overexploitation. This fragility is also related to the potential population growth and increased tourism, which will be discussed in more detail in the Drivers of Change section.

Cultural places were classified with medium fragility, unlike Agua Verde, whose fragility is high. This is because workshop participants see the

fishing culture and its villages threatened by sport fishing, indicating that this has a very high negative impact on artisanal fishing. However, there was no consensus regarding their level of importance, which varies between low or high importance.

Ecotourism activities such as diving, kayaking, hiking, and cycling were classified with medium fragility; however, these activities depend heavily on the condition and state of the natural attractions classified as highly fragile. For more information, refer to Annex 2.

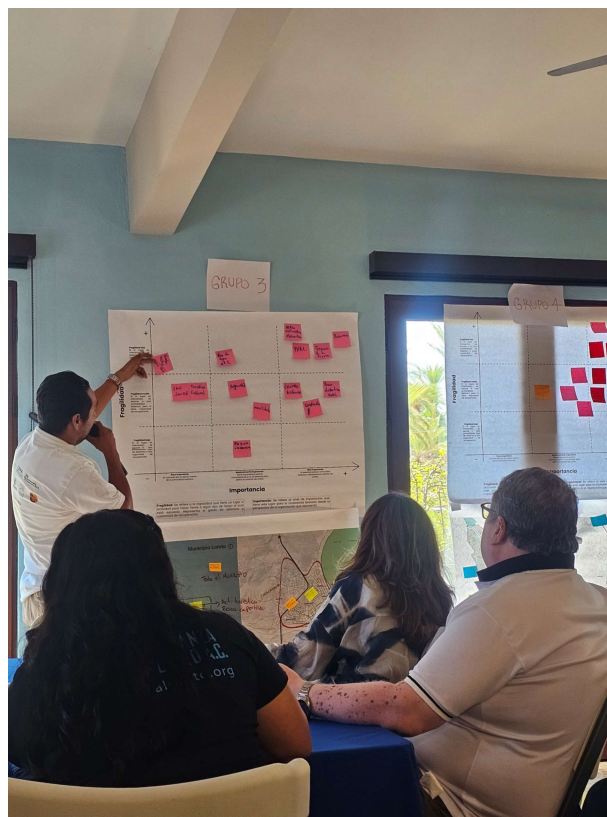


Figure 05: Group presentation of the most valued places and their classification based on fragility and importance.

## Unsettled Themes

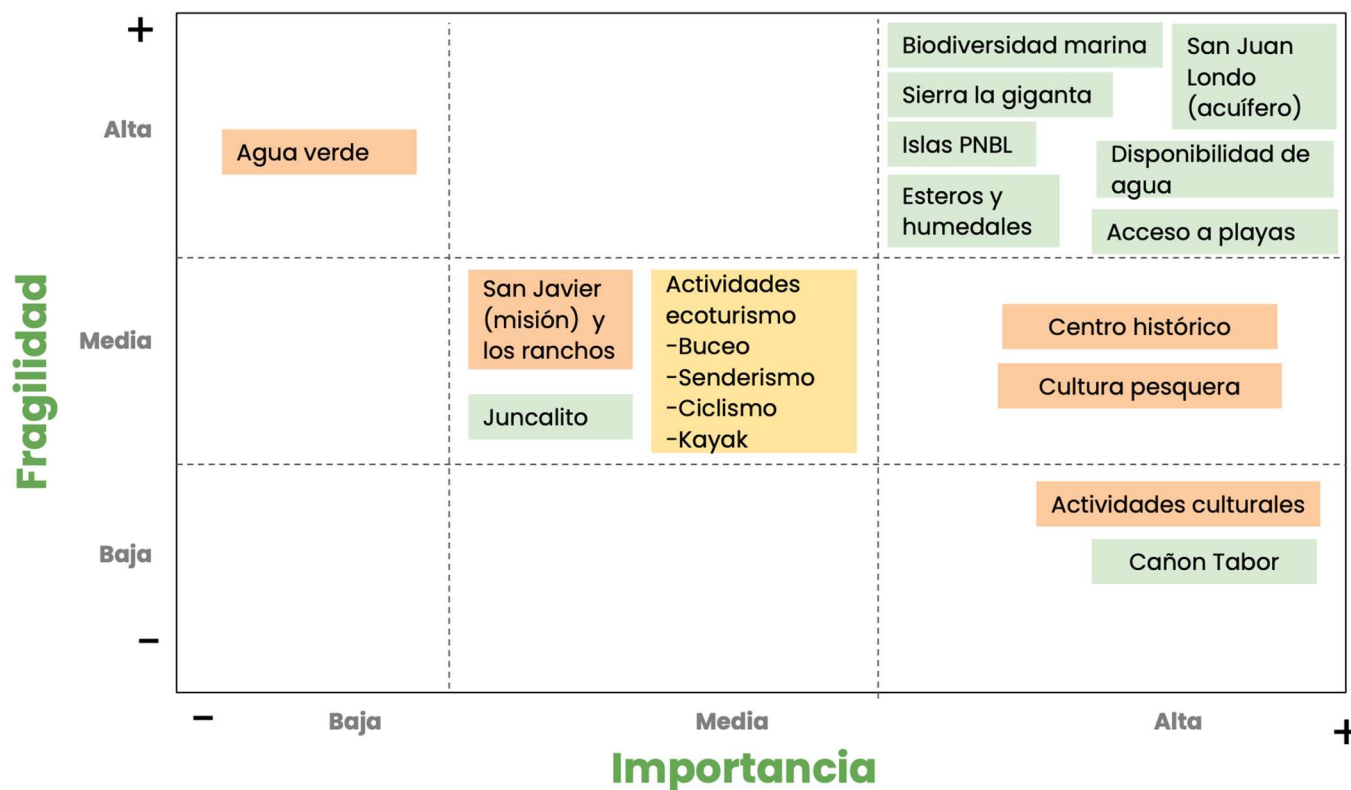
There is a disparity of opinions regarding some specific themes. The first concerns the protected areas of fishing grounds. Some groups believe that the ecosystem is too fragile to sustain fishing activities, while others indicate that fishing is part of the identity of the inhabitants.

The second theme relates to the conservation and protection of the environment in relation to the increase in job opportunities linked to the development of economic activities. This becomes one of the major points of disagreement in the workshop.

Figure 06: Most valued places and activities categorized by level of fragility and importance Source: GeoAdaptive LLC and Loreto 2050 Workshop Data.

### Simbología

- Cultural
- Entorno natural
- Actividades económicas





# Drivers of change





## Findings

The main drivers of change mentioned in the workshop development are described below:

- The increase in tourist demand was identified as one of the drivers of change with the greatest impact on the municipality. Within this theme, unregulated tourism, seasonal tourism, and real estate speculation were mentioned. Additionally, the workshop discussed how the tourism-focused approach of the municipality could lead to low productive diversification.
- Tourist demand also fuels short-term accommodations like Airbnb, generating various impacts in the center of Loreto (see the next section on the Impacts of the Drivers of Change).
- In contrast, the creation of New Protected Natural Areas (ANPs) undoubtedly also impacts the future of the municipality. The discussion on this driver of change focused on both the positive and negative impacts of the two new ANPs, Nopoló National Park, and Loreto II National Park. Both are very close to the tourist hubs of Nopoló and Puerto Escondido, which are part of the tourist corridor that connects them to Loreto.
- Climate change was one of the most mentioned drivers, specifically due to its effects on hydrometeorological phenomena such as rains, droughts, and temperature increases.

- Crime and drug trafficking were also mentioned as a predominant and increasing driver of change. This is one of the most concerning issues for the people of Loreto as it could impact the safety and tranquility that characterizes Loreto.



Figure 09: Map of urban area of city of Loreto.



In summary, the working groups identified a total of 31 drivers of change, of which 14 were mentioned by two or more groups.

The 14 drivers mentioned by two or more groups are:

Tourism demand, short-term accommodation (Airbnb), connectivity by air, water availability, energy demand, changes in consumption habits, new natural protected areas (NPAs), climate change, artisanal fishing, crime and drug trafficking, mobility, unplanned urban growth, population growth and education.

The other 15 drivers of change linked to negative aspects, mentioned by at least one group, include: overexploitation of natural resources, land grabbing and blocking of public access, lack of workforce, pandemic impacts, migration and immigration, public policy in tourism, environmental public policy, currency impact, inadequate oxidation lagoons, lack of a municipal planning program with the participation of all sectors of the municipality, desalination plants, local and foreign investment, mining activity, public disinvestment related to health issues.

Regarding drivers related to positive aspects, two were mentioned: identity as a driver of social cohesion and cultural rootedness.

The following table lists the drivers of change mentioned by two or more groups.

Table 02: Drivers of change. Source: GeoAdaptive LLC and Loreto 2050 Workshop data.

Impulsor de cambio	1	2	3	4	5
<strong>Turismo</strong>					
Demanda turística					
Alojamiento corto plazo - Airbnb					
Conectividad aérea					
<strong>Recursos</strong>					
Disponibilidad de agua					
Demanda energía					
Cambio en los hábitos de consumo					
<strong>Entorno Natural</strong>					
Nuevas áreas naturales protegidas (ANPs)					
Cambio climático					
Pesca artesanal					
<strong>Desarrollo urbano e infraestructura</strong>					
Delincuencia y drogas					
Movilidad					
Crecimiento urbano sin planificación					
Crecimiento poblacional					
Educación					



## Unsettled Themes

The new Protected Natural Areas (ANPs), Nopoló National Park, and Loreto II National Park, were part of a discussion in various groups where no consensus was reached regarding their impact, defining whether it was positive or negative.

There is consensus regarding the environmental benefits and biodiversity protection generated by the creation of new ANPs. However, since they were declared near areas with tourism potential, economic development is also impacted. Both ANPs are located adjacent to Nopoló (Nopoló National Park) and Puerto Escondido (Loreto II National Park). Some participants criticize their location, suggesting that it could have been closer to the mountains, allowing for a certain expansion of the Nopoló tourism hub. Other participants believe that having a national park adjacent to these tourist areas will add positive tourism value to Nopoló and Puerto Escondido.

## Map and Geographical Location of drivers of change

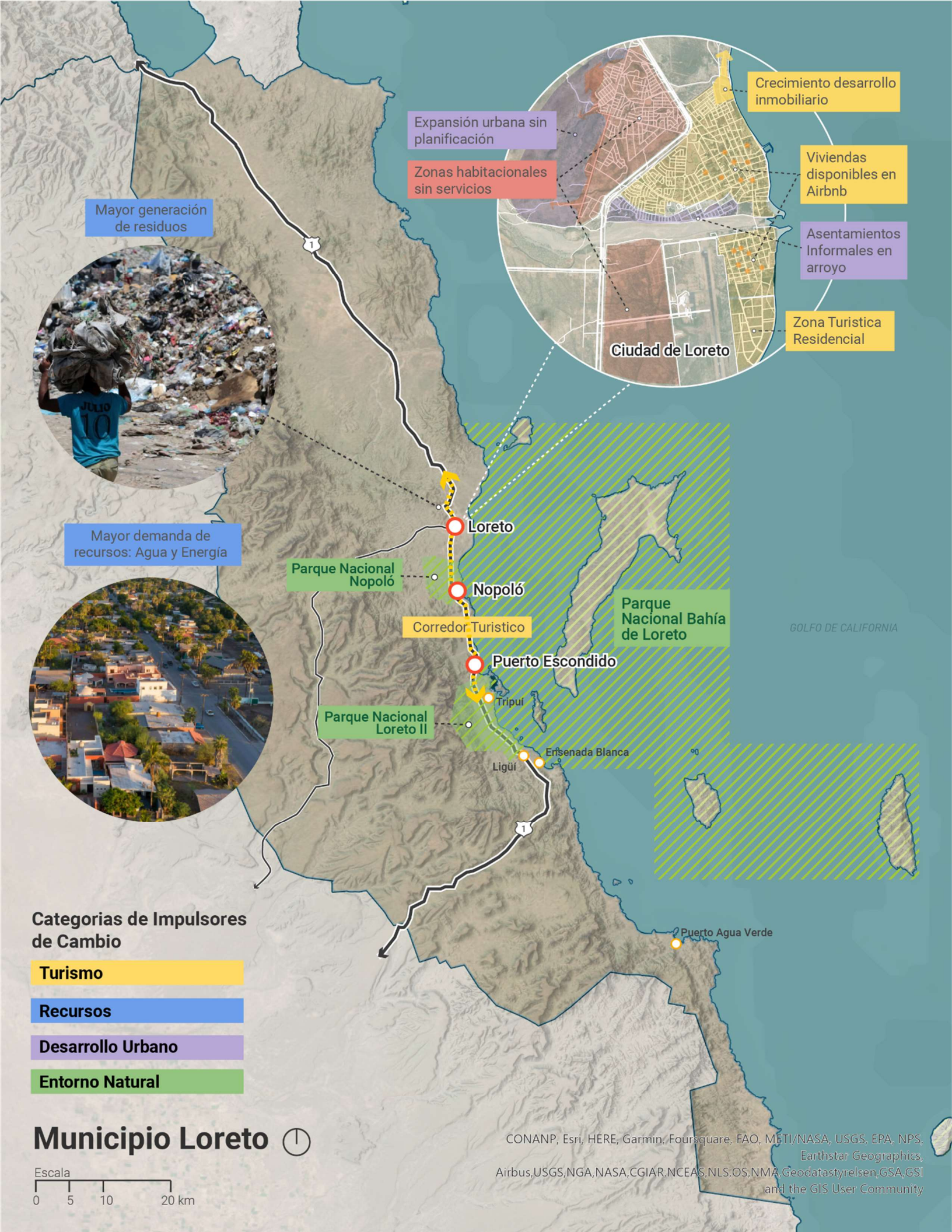
Mapping change drivers involves drawing the named change driver and its impact on the territory. The inventory of change drivers corresponds to a key piece of input for the development of scenarios.

The change drivers identified by workshop participants were located on two maps, one at the scale of the municipality of Loreto, including the PNBL and the islands, and another at the city scale, corresponding to the urban area of Loreto.

- On the **municipal scale**, existing tourist areas located on the coast stand out. The tourist corridor that connects Loreto, Nopoló, and Puerto Escondido contrasts with the new ANPs located right next to two of the tourist hubs, Nopoló and Puerto Escondido. Along with this potential tourism growth, the impacts it can bring to the municipality, such as increased waste generation and higher demand for water and energy, are highlighted.
- On the **city scale**, zones of growth and real estate development on the coast of Loreto are emphasized. Simultaneously, the issue of the increasing availability of homes on Airbnb is depicted, limiting housing options for locals, which could lead to unplanned urban expansion towards the sierra and informal settlements in risky areas along the San Telmo creek. Finally, the current problem of residential areas without services is also highlighted.

Based on this evidence, a synthesis map of the identified change drivers was developed, grouped according to the four main categories previously defined: tourism, resources, urban development, and the natural environment. For more information, refer to Annex 3.





Mayor generación de residuos



Mayor demanda de recursos: Agua y Energía



Expansión urbana sin planificación

Zonas habitacionales sin servicios



Crecimiento desarrollo inmobiliario

Viviendas disponibles en Airbnb

Asentamientos Informales en arroyo

Zona Turística Residencial

Ciudad de Loreto

Loreto

Nopoló

Corredor Turístico

Puerto Escondido

Parque Nacional Nopoló

Parque Nacional Bahía de Loreto

Parque Nacional Loreto II

Tripui

Ligüi

Ensenada Blanca

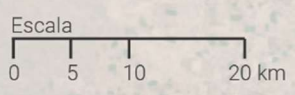
GOLFO DE CALIFORNIA

Puerto Agua Verde

### Categorías de Impulsores de Cambio

- Turismo
- Recursos
- Desarrollo Urbano
- Entorno Natural

## Municipio Loreto



CONANP, Esri, HERE, Garmin, Foursquare, FAO, METI/NASA, USGS, EPA, NPS, Earthstar Geographics, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastyrielsen, GSA, GSI and the GIS User Community







# What are the impacts of the drivers of change?

The identified drivers of change were classified by the workshop participants based on the **frequency** with which they occur in the region and the **impact** they have caused.

Frequency refers to how often the drivers of change occur and how their impacts affect the city. Understanding the frequency of the identified drivers of change helps comprehend and project their impacts on Loreto's future.

- High Frequency: Occurs repeatedly for more than a decade.
- Medium Frequency: Occurs several months in the year.
- Low Frequency: Occurs temporarily.

Impact is the consequence of the effects of a driver of change. It refers to losses in environmental, social, or economic terms and whether the municipality or city has the capacity to recover and how long it would take.

- High Impact: Implies significant losses in environmental, social, and/or economic terms that take a long time to recover.
- Medium Impact: Signifies significant losses in environmental, social, and/or economic terms, but they are recoverable in a short period.
- Low Impact: Does not involve losses in environmental, social, and/or economic terms.



Figure 10: Map of drivers of change and their impacts at a municipality scale.



Figure 11: Group discussion aimed at classifying the drivers of change according to frequency and impact.



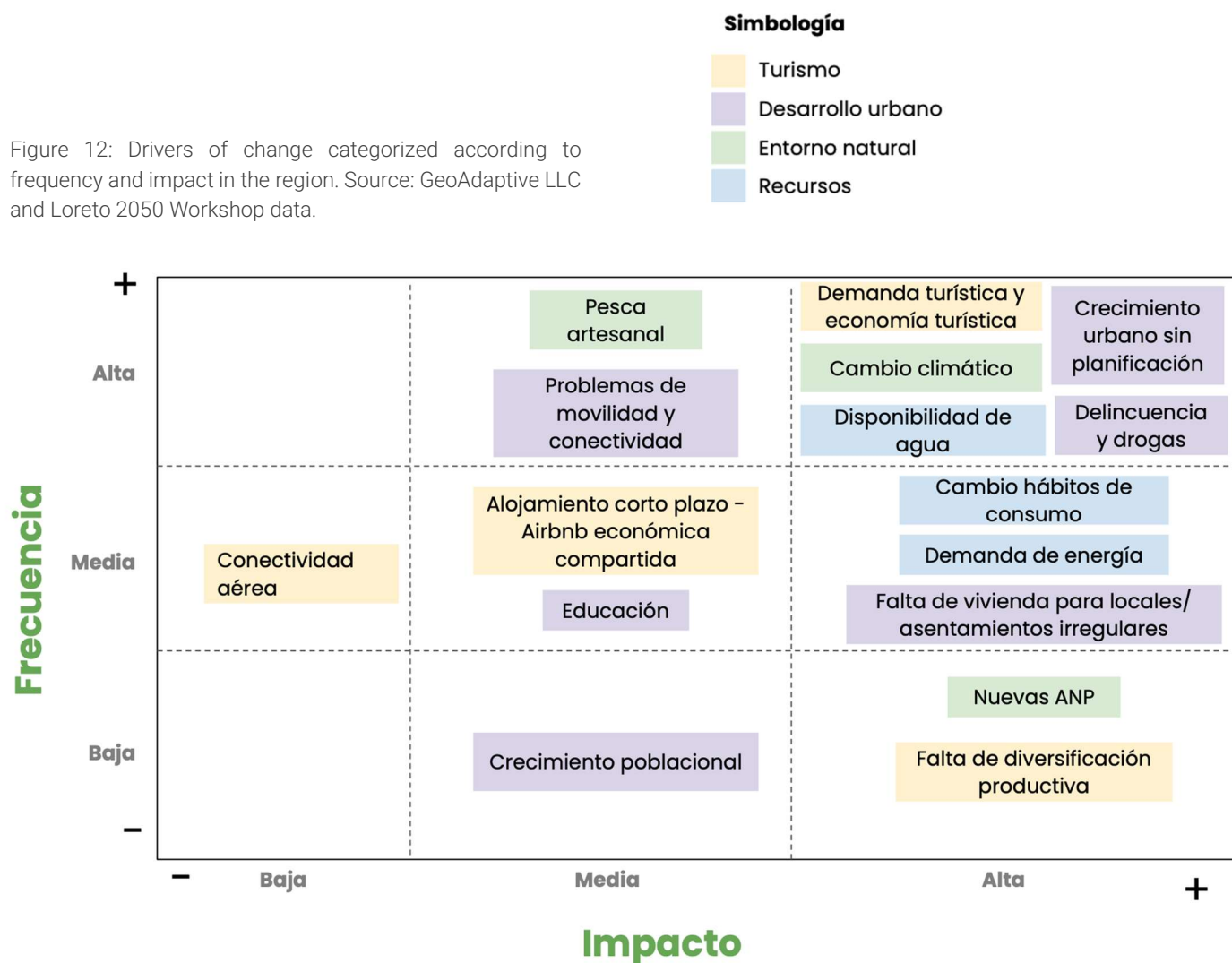
## Findings

The following are the main drivers of change mentioned in the workshop in terms of their frequency and impact:

- Tourist demand** was classified with high frequency as it has increased in recent years, and it was considered to have a high impact in the future. Its impacts include increased demand for water and energy. In Loreto, this could lead to the overexploitation of the San Juan Londó aquifer and consequently the need for a desalination plant to meet the new water requirements. The environmental impacts and impacts on marine biodiversity that these plants may cause should be considered.
- Among the mentioned impacts is the increase in **short-term accommodation** like Airbnb. In the urban center, there is an increase in housing prices and a decrease in availability for locals because the shared economy business model is prioritized over long-term rentals.
- Another repercussion is the incentive for **unplanned urban growth** and the emergence of informal settlements, negatively impacting the quality of life. An example is the construction of informal settlements in risk areas, such as along the San Telmo creek.
- Climate change** was classified as high frequency and high impact. Among its impacts, strong hurricanes were mentioned, causing damage to infrastructure, destruction of roads, interruption in connectivity, and marine pollution as water runoff carries waste and pollutants from open dumps. The concern of the locals is that, with heavy rains and strong winds, existing landfills cause contamination of streams and aquifers, affecting the entire community.
- Crime and drug addiction** are both of high frequency and high impact, a significant concern for the locals as it would affect the security and tranquility that characterize Loreto. Drug trafficking linked to fishing activity was mentioned.
- Water availability** is at risk with population growth and the increase in tourist services. The construction of desalination plants in the future was mentioned to meet the demand for drinking water. Tourism and the arrival of new residents generate an increase in energy demand and catalyze changes in consumption habits. High consumption of single-use plastic due to the increased floating population is mentioned as a risk. This has a significant impact on the municipality as it lacks recycling infrastructure.

- An increase in air connectivity, that is, a higher frequency of flights, was also identified as a driver of change because it would increase national and international tourism, attracting a greater number of visitors to the municipality.

The following figure shows the drivers of change classified according to their frequency and impact in a synthesis diagram.



# Baseline Scenario 2050





## What would happen if nothing changes?

The baseline scenario is the one envisioned from the present and determines what could happen if no actions are taken for the management, conservation, restoration, and sustainable use of the environmental goods and services provided by the ecosystems in the municipality.

Through historical processes and events, as well as the components and factors shaping the social and territorial reality, projections are developed to reveal the behavior, trends, and environmental risks over time. The baseline scenario is a crucial tool for understanding the potential implications of not implementing specific actions aimed at sustainable management of natural resources and the preservation of ecological balance in the municipality.

The vision of the baseline scenario from the workshop participants revolved around six key themes: environment, housing and city, tourism, water, infrastructure, and public space.

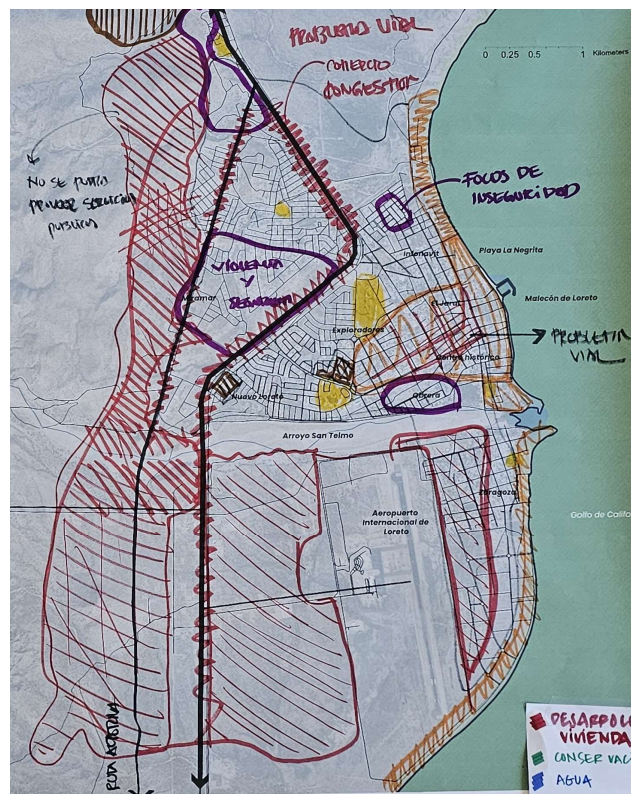


Figure 13 Baseline Scenario Loreto 2050. City-scale Map Group 3.



Figure 14: Group working on drafting the narrative of the Baseline Scenario Loreto 2050.



## Environment

In the city of Loreto, a general deterioration of the environment is expected due to the increase in tourism and negative consumption habits that generate pollution with waste, visual pollution, and damage the air quality.

- The current landfill is linked to the pollution of streams, aquifers, islands, and the sea, exacerbated by the abundance of plastic products that negatively impact both marine species and the landscape.
- In response to population growth and water demand, a desalination plant has been installed, exerting a serious impact on the marine environment of the Bahía de Loreto National Park (PNBL). The desalination process, notable for its high energy consumption, has resulted in a marked decrease in marine biodiversity, affecting fish, clams, and coastal vegetation.
- Beaches and estuaries show obvious deterioration, witnessing the accumulation of waste and debris.
- The increase in extreme weather events, such as hurricanes, has intensified impacts, manifested in road closures, alterations to the coastline, and damage to estuaries and wetlands.

## Natural Protected Areas

Regarding the Protected Natural Areas (ANPs), there is a lack of consensus. On the one hand, it is believed that conserving biodiversity and ecosystems through ANPs will be balanced due to management and regulation of activities. On the other hand, it is expected that ANPs will not be effective because real estate investment is likely to develop land in the most fragile areas, indicating that ANPs would have little regulation and insufficient personnel. Additionally, it is expected

that ANPs will limit real estate development in the area near Nopoló.



Figure 15: Landfill in Loreto Baja California Sur.

## Housing and the City

The city's expansion exhibits a disorganized pattern, mainly attributed to the absence of effective planning and given the lack of legally binding planning instruments.

- Possible overcrowding issues and an uncontrolled expansion of the urban footprint are foreseen, mainly growing in the south and west. This scenario anticipates a significant increase in informal settlements and constructions in risk-prone areas, such as the banks of the San Telmo stream.
- Urban expansion is exacerbated by the lack of enforcement of regulations that should guide and limit urban development.

There is no consensus regarding growth trends. One trend suggests that the city would expand towards the sierra, while another proposes that the expansion will mainly be towards the south, and the Miramar neighborhood will continue to grow with affordable housing.



Figure 16: House in Nuevo Loreto, Baja California Sur.

## Tourism

Regarding the increase in tourism, two different visions are presented. The first suggests that tourism is shifting towards nature tourism, mainly catering to domestic tourists with lower purchasing power. The second vision describes a hotel and second-home real estate boom that displaces locals. This type of tourism focuses on "spring breakers" and resorts, moving away from nature, history, and culture tourism.

- Both alternatives will increase the demand for public services and lead to greater restrictions on beach access due to new projects in beach areas.
- The increase in tourism activity raises the demand for water and electricity, causing the local population not to be a priority in its supply.

This divergent landscape emphasizes the importance of strategic planning that carefully considers the balance between tourism development, environmental preservation, and the well-being of the local community.



Figure 17: Resorts, Loreto Baja California Sur.

## Water

The demand for water continues to rise driven by population growth and tourist influx. To address this challenge, water rationing will be required, along with the development of alternative supply sources and the expansion of the water treatment system to compensate for discharge issues and scarcity.

- The growing water demand has led to considerations of installing desalination plants as an apparent solution. However, this choice poses significant risks to the marine ecosystem, raising concerns related to waste pollution, including wastewater, and failures in hydrological and administrative planning.
- Inefficient water resource management has led to a decrease in water availability in aquifers.
- The overexploitation of the San Juan Londó aquifer poses the imminent threat of resource depletion due to the lack of regulation in its use, and there could be a risk of saline intrusion into the aquifer. It is anticipated that water will run out in Nopoló, leading to frequent water cuts due to energy shortages.



Figure 18: La Garza well, Loreto Baja California Sur.

## Infrastructure

New infrastructure will have to be developed to provide more public services, generating greater financial pressure on the Municipality.

- There is a weakening and exhaustion of public investment, with the investment concentrating only in the center of Loreto and tourist towns, leaving many neighborhoods marginalized in terms of infrastructure.
- There is a collapse in the road system due to an increase in vehicles, as well as in hydraulic infrastructure.
- There is a lack of sports, cultural, educational, road, and port infrastructure in the Zaragoza neighborhood.
- Solid waste pollution, wastewater contamination, traffic congestion (heavy

traffic), power outages, and poor internet signal are anticipated.

## Public spaces

There is consensus that with the increase in tourism and population growth, public space would be reduced due to the privatization of spaces.

- Lack of parks and recreational areas, loss of access to beaches, and therefore, reduced family interaction among the Loreto community.
- It is mentioned that the arrival of new people for work will bring new uses and customs that will predominate in certain areas of the city and influence the community at large. This could lead to a loss of local identity and increased security concerns due to drug trafficking.



Figure 19: Loreto's waterfront, Baja California Sur.



## Mapping and Geographical Location of the Business-As-Usual Scenario.

The mapping of the business-as-usual scenario involves illustrating what will happen in Loreto if nothing changes, if the trends described earlier in the six thematic areas (environment, housing and city, tourism, water, infrastructure, and public space) continue.

For this case, the decision was made to create the map on the city scale since the majority of the mapped and discussed topics correspond to the Loreto sector and its surroundings.

- On the **city scale**, it is possible to visualize an unplanned expansion of the city without services towards the sierra and south towards Nopoló. This results in a new industrial zone and informal settlements on the banks of the San Telmo stream.
- With the **increase in tourism**, there is a new tourist zone on the coastal edge of Loreto, leading to the privatization of public spaces and restricting access to beaches. This population and tourism surge implies a collapse of the road system and water shortages due to energy deficits. Additionally, there is poor management of the municipal landfill due to increased waste and the construction of a desalination plant because of the overexploitation of the San Juan Londó aquifer.

The following map provides an overview of the 2050 business-as-usual scenario. The trends highlighted by the participants in the workshop are grouped according to the six structural themes that guided the participation. For more information, refer to Annex 4.



Figure 20: Participatory Workshop, Mapping of scenarios for Loreto.

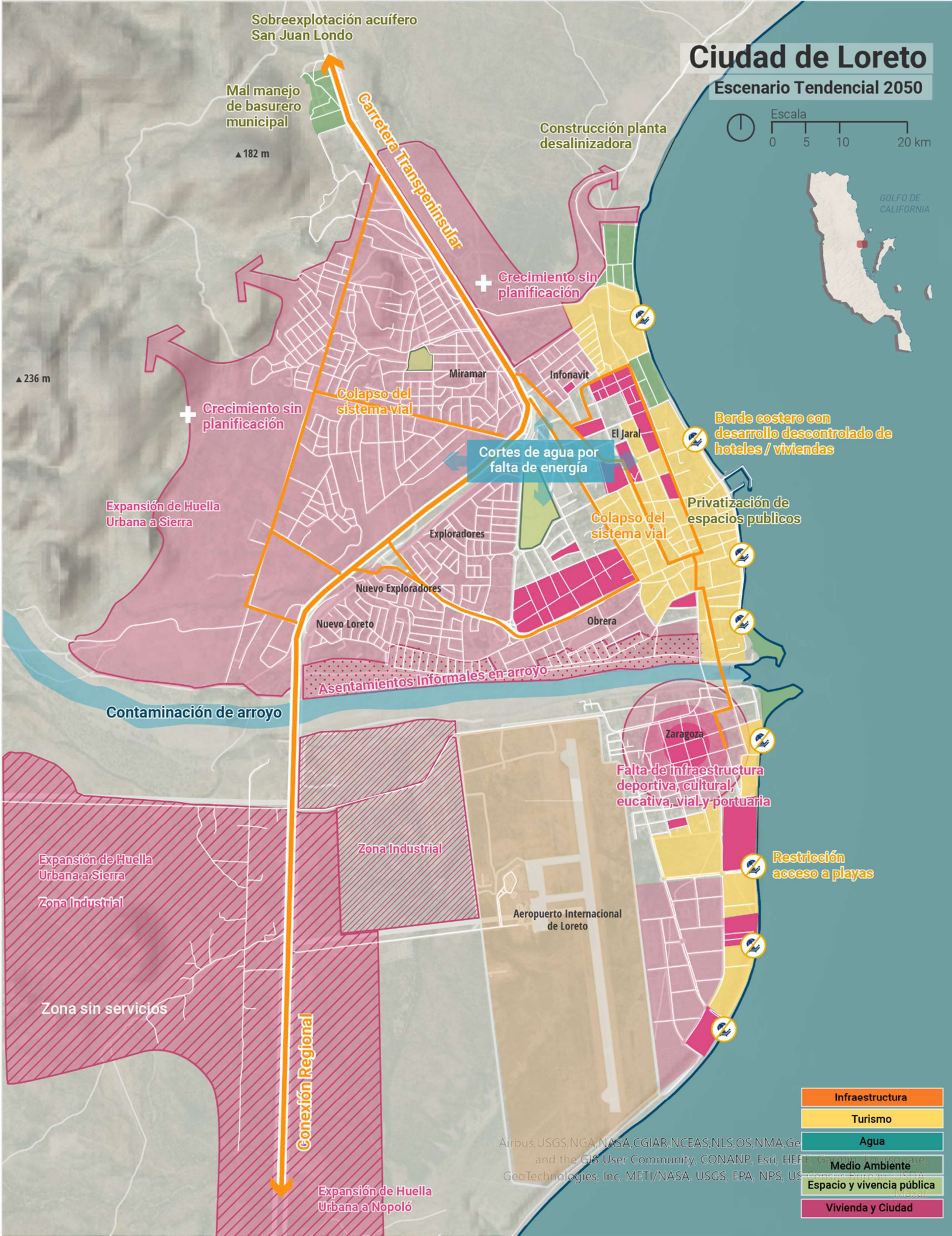


## Escenario Tendencial 2050

Escala



0 5 10 20 km





# Desired Scenario 2050



# What future do we want for Loreto?

Desirable or alternative scenarios present images or ideas of possible and/or desirable futures.

They introduce a hypothesis of change, if the motivations of actors or other external variables may affect the behavior of the drivers of change, which in turn impacts the problem under analysis.

The vision of the desirable scenario developed by the workshop participants revolved around the same six key themes that guided the construction of the business-as-usual scenario.

## Environment

The goal is to achieve balanced development with the preservation of the environment. To achieve this, a set of key actions are identified:

- Update the land use and ecological planning program.
- Ensure an updated management program for Protected Natural Areas (ANPs), with sufficient resources for monitoring and conservation activities within the ANPs, increasing research and studies related to the protection of the municipality's natural resources.
- Preserve the marine park, protecting marine and coastal biodiversity, including ecosystems along the coast (beaches, estuaries, and dunes).
- Establish new areas for conservation, such as declaring wetlands conservation areas.
- Design, update, and implement legal instruments (Federal, State, and Municipal) to protect the environment.
- Regulate the landfill, complemented by an effective waste management program to prevent contamination of islands, streams, and the water table.

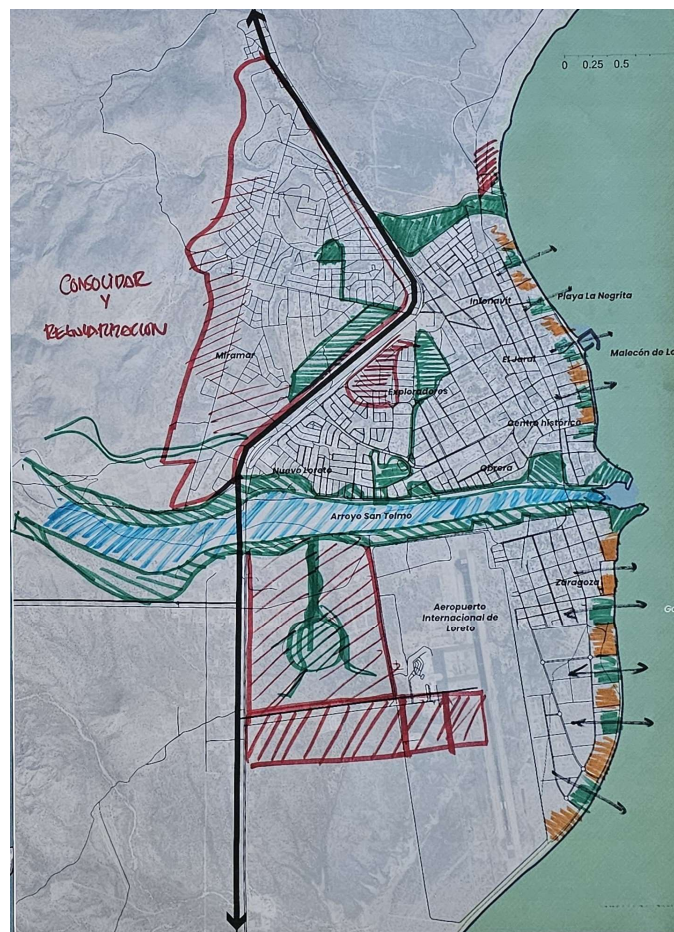


Figure 21: Desired scenario for Loreto 2050.  
City Scale Map Group 3.



## Housing and City

The goal is to achieve organized population growth with a high quality of life for various groups. The following actions are identified:

- Develop a zoning plan and urban development program that integrates green or recreational areas and ensures decent housing for all residents of Loreto. This is particularly relevant in the urban periphery areas: Miramar and Rivera.
- Implement urban planning to provide public services, adequate roads, and densification of areas to accommodate new housing. Specifically, in the ejidal lands, areas corresponding to the northern part of Miramar, and the area located south of the San Telmo stream on both sides of the road.
- Promote densification in Nuevo Loreto and the Exploradores sector, the southern sector of Miramar located alongside the road, the Rivera, and the sector south of Zaragoza. This action facilitates access to decent housing in regulated lands.
- Promote the diversification of economic activities that encourage the circular economy, implement an inclusive mobility plan, and provide traffic and civic education.
- Locate government offices to preserve the historic center, where there is a mix of hotels, restaurants, and shops, as well as residential buildings.

## Tourism

The goal is to achieve low-impact tourism development that does not compromise natural resources. The proposed actions include:

- Development of nature-focused, controlled, and low-impact tourism.
- Promotion of adventure tourism in the Sierra and rural tourism to diversify activities and reduce pressure on the PNBL.
- Development of controlled and low-impact tourism through professionalization of service providers, cultural awareness of the population regarding tourism and sustainability.
- Regulation of activities to ensure sustainability in the sector. Tourism activities on islands are maintained according to the PNBL management program.
- Consolidation of diversified tourism, including foreign, national, and regional tourism.
- Create more options and opportunities for the preparation and specialization of tourism services.
- Develop a controlled and regulated hotel offering through platforms.
- Define the carrying capacity for the number of lodging rooms (airbnb and hotels).



## Water

The goal is to protect the water resource to prevent the overexploitation of the San Juan Londó aquifer and maintain water availability in the area. The following key actions are identified:

- Promote a water-saving culture and awareness among the population.
- Reuse wastewater and use techniques to harness rainwater (gabions, dams).
- Reuse treated wastewater for irrigation in the municipality.
- Encourage moderate use of existing wells.
- Construct new works to facilitate aquifer recharge in San Juan Londó, such as recharge structures in the San Telmo stream, and dams in the El Pilar and Las Parras streams.
- Build water treatment plants with greater capacity and efficiency.
- Establish better control of water charges (fee system) based on usage, as well as charging for water treatment.
- Design and implement an adequate potable water distribution network.
- Regulate water catchment areas through a watershed management and conservation approach.
- Prohibit golf courses.

## Infrastructure

The goal is to have the necessary infrastructure to provide services and facilities to residents and visitors. The following key actions are identified:

- Improve the road network, especially in Miramar and at the entrance and exit of Loreto, including the bypass.
- Develop a sustainable mobility program that considers a new and efficient public transportation network, bike lanes for rental bicycles and pedicabs, as well as safe pedestrian routes.
- Establish waste treatment plants and develop an appropriate Wastewater Treatment Plan (PTAR).
- Install solar farms, build stepped dams, and modernize the drinking water network.
- Develop sports infrastructure in residential areas, cultural infrastructure (next to Hacienda Suites), new schools, universities, and new hospital infrastructure.
- Design roads correctly, ensuring access to beaches and streams.
- Relocate sports areas (from the Revolución Moreno Stadium to the sports complex).
- Design and implement a network of bike lanes.

## Public Spaces

The goal is to have public spaces that showcase the natural attractions of Loreto while being valuable recreational spaces. The proposed actions are as follows:

- Respect and prioritize the historic center, recovering and safeguarding cultural and historical identity.
- Design and build recreational and gathering spaces in residential areas.
- Relocate the oxidation pond to make way for a public recreation center.
- Design and implement a network of natural trails along the San Telmo stream and along the coast, including in the Las Garzas estuary, La Negrita wetland, and El Bajo.
- Create a network of interconnected parks and urban spaces with public spaces and green areas for socializing, recreation, culture, arts, and sports.
- Construct a well-equipped second municipal auditorium.

## Mapping and Geographic Location of the Desirable Scenario.

Mapping the desirable scenario involves imagining an ideal future for Loreto, identifying the most important elements to protect, the activities taking place, and what needs to happen for this to be fulfilled. The characteristics of the desirable scenario and its impact are described in the same six areas used for the tendential scenario.

For this case, the map was created on a city scale because the majority of the mapped and discussed topics correspond to the Loreto sector and its surroundings.

- Specific areas in Nuevo Loreto, Exploradores, and the south of Miramar were delimited for strategic urban planning integrating

densification zones and controlled urban growth with a housing typology.

- An integrated network of parks and public spaces is developed in Loreto, seamlessly connecting various natural attractions such as beaches, estuaries, and wetlands. This network of public spaces extends strategically beyond residential areas to connect with the historic center of Loreto. Additionally, a recreational center is established in the northern area, where the oxidation pond is currently located, supporting and strengthening the sense of community and promoting a balance between urban and natural space.

The following map shows the proposed desirable scenario based on the information gathered in the workshop. It locates the main actions listed by the participants in the territory. To facilitate understanding, the six structural thematic groups of the discussion are distinguished, and the corresponding actions are organized using distinguishing and grouping colors. For more information, refer to Annex 5.



Figure 22: Presentation of desired scenario Loreto 2050 to workshop attendees.



Conservación y Preservación

Relleno sanitario regulado

▲ 182 m

Rutas Ecoturismo

▲ 236 m

Densificación Urbana

Crecimiento Planificado

Restauración de borde natural

Recarga Acuífero

Zona de Uso Mixta

Crecimiento Planificado

Conexión Regional

Crecimiento Planificado

Carretera Transpeninsular

Centro Recreativo

Parque Municipal

Miramar

Nuevas Zonas Habitacionales

El Jaral

Exploradores

Nuevo Exploradores

Nuevo Loreto

Conservación del centro histórico

Obrera

Paseo Turístico

Estero Las Garzas

Parque Lineal

Arroyo

Transporte público

Ciclovía

Acceso Playas

Turístico Hotelero

Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Ge  
and the GIS User Community, CONANP, Esri, HEF, E, Gamma, Earthstar, Ge  
GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

# Ciudad de Loreto

Escenario Deseable 2050

Escala  
0 5 10 20 km

GOLFO DE CALIFORNIA

Protección del  
parque marino,  
biodiversidad y  
zona costera.

## Temas Claves

Infraestructura

Turismo

Agua

Medio Ambiente

Espacio y vivencia pública

Vivienda y Ciudad







## Recommendations

During the development of the Loreto 2050 Workshop, a wide variety of topics were reviewed and organized into six major groups (environment, tourism, infrastructure, public space, water, and urban growth). However, it is relevant to recognize that other topics of interest also emerged, which could not be addressed in sufficient depth or were a source of debate among participants.

The topics that could not be addressed, and it is recommended to integrate them into additional discussions regarding the future of Loreto, include:

- **Addressing the effects of the increase in the sharing economy**, especially in tourist activities. Studying the potential impact on the real estate crisis of a higher quantity of Airbnb-type offerings, where the lack of regulation in vacation home rentals could exert greater pressure on more fragile services, such as water access.
- **Empowering the civilian population and its representatives**, particularly regarding different planning instruments, both currently available and any future efforts, such as the public consultation (in progress) for the creation of the Municipal Urban Development Plan.
- **The absence of public transportation system in Loreto**. Participants expressed concern about the lack of a public transportation system connecting different areas of the municipality, being accessible, and helping decongest the city center, especially during the summer.

- **Air pollution**. Due to the increase in the city's automotive fleet, the lack of paved streets, and the geographical configuration generated by the Sierra la Giganta, there has been a noticeable increase in air pollution in recent years, making it necessary to establish a management plan to address this issue.

With these considerations in mind, this section accounts for the main thematic consensuses reached regarding the concerns and aspirations of the participants, identifying geographically where the places and activities mentioned by the participants are located. Based on the recognition of these consensuses, key recommendations are formulated as suggestions for each of them.

### Environment

The development of the region should not compromise the environment that sustains it. To achieve this, there is an emphasis on the need for planning instruments and a local government capable of efficiently managing protected and development areas.

#### Management of new NPAs:

*Advance in the effective management of new ANPs, considering that the government lacks the necessary funds and capacities for their implementation.*

- Having a allocated budget for monitoring and tracking programs, as well as for personnel dedicated to the management and regulation of activities, to ensure the effectiveness and protection of the Natural Protected Areas (NPAs).

### **Tourism development and NPAs:**

*Addressing the tourist pressures in relation to the Nopoló National Park and the Loreto II National Park, located very close to the tourist corridor towns: Nopoló and Puerto Escondido.*

- Measuring the economic impacts that these ANPs may have on the tourist development enclaves of Nopoló and Puerto Escondido. Additionally, it is suggested to create a plan for growth and tourism development that respects the ANPs to enhance the tourism development of these areas and simultaneously prevent construction and development within the national parks.

### **Wetland management:**

*Preserving the wetlands, which are part of the natural spaces of the municipality of Loreto and are considered very valuable places for the people of Loreto.*

- Establishing a declaration of wetland conservation, complemented by the design, updating, and implementation of legal instruments (Federal, State, and Municipal) to protect wetlands and other ecosystems. Highlighting the wetlands of Ensenada BCS, Nopoló, El Mangle, San Juanico.

### **Growth management:**

*Having legal instruments that help organize the expected urban growth with the increase in both local and tourist populations.*

- Updating and implementing marine and land planning programs.
- Formulating programs to move towards a sustainable future where the basic needs of the population are met without compromising the health of the ecosystems that sustain regional economies.

### **Waste management:**

*Managing waste because of the increase in population and tourism. The current landfill is an open dump and is a source of contamination for streams and aquifers.*

- Improving infrastructure related to waste management.
- Having a regulated landfill to prevent water source contamination and prevent garbage from dispersing.
- Recycling plants for single-use plastics.

## **Housing and City**

There is consensus that the city of Loreto should accommodate a greater number of homes and provide services in areas where there are none. To respond to this challenge, a set of various complementary strategies are suggested.

### **Densification and housing:**

*Planning to accommodate a greater number of homes and provide services in areas where there are none, to respond to the increase in population and tourism.*

- Defining densification and urban planning zones in areas without services.
- Developing instruments to prevent housing settlements in risk areas such as the banks of the San Telmo stream with informal settlements.
- Including new residential, service, and hotel zones, as well as areas of historical preservation that protect existing historical buildings, in the historic downtown area.
- Preserving the urban scale of the historic downtown through the regulation of permitted land uses, building heights, among other factors.

- Urban planning for ejido lands and providing public services, adequate roadways, and densification of areas to accommodate new housing.
- Areas with opportunities for densification include Nuevo Loreto and the Exploradores sector, the southern sector of Miramar located beside the road, the Rivera, the southern sector of Zaragoza, and the sector located south of the San Telmo stream, between the airport and the road.

## Tourism

It is the main economic activity in the area, so its future development requires controlled planning that does not compromise the natural environment or Loreto's resources.

### Controlled tourism development

*Develop a much more controlled tourism approach that focuses on nature, rural areas, and the Sierra la Giganta, not solely concentrating on beach tourism.*

- Define the tourism offerings as a municipality.
- Promote adventure tourism in the Sierra and rural tourism to diversify activities and reduce pressure on the PNBL.
- Professionalize the skills of service providers, raise cultural awareness among the population regarding tourism and sustainability.
- Regulation of activities to ensure sustainability in the sector.
- Develop a management plan for the PNBL to define and control tourism activities in this area.

## Water

La The lack of water resources stands out as a cross-cutting and primary concern. The overexploitation of aquifers and contamination of streams generate significant worry and combined with drought, it is expected to further exacerbate supply problems.

### Sustainable water resource management:

*Protect the aquifer as a water source through the implementation of aquifer recharge projects and watershed protection areas.*

- Establish the San Telmo stream area as an aquifer recharge zone.
- Build dams and reservoirs in the El Pilar and Las Parras streams.
- Develop an aquifer management plan to prevent overexploitation and saline intrusion, like what happened with the Loreto aquifer.
- Formulate a watershed management and protection plan to assist with aquifer recharge.
- Control the construction of future desalination plants to prevent environmental impacts.



## Infrastructure

Improve infrastructure to address the overall increase in demand for transportation, water, and energy. Other identified improvements include sports, cultural, educational, and health infrastructure that leads to displacement to other locations (for example, La Paz).

### Road infrastructure

*Provide a public transportation system in Loreto to prevent future traffic congestion and promote emissions reduction.*

- Develop a sustainable mobility program that considers a new efficient public transportation network, bike lanes for rental bikes and bike taxis, as well as safe pedestrian routes.

### Waste management

*Implement a waste management system considering the impact of tourism and single-use plastic consumption habits.*

- Build waste treatment plants and an adequate Wastewater Treatment Plan (PTAR).
- Reuse treated water for irrigation, construct stepped dams, and modernize the drinking water network.

### Energy

*Explore alternatives for obtaining energy since the increase in tourism raises the demand for electricity, potentially compromising energy supply for the local population.*

- Install solar farms for energy provision.

## Additional Infrastructure

*Evaluate the need for providing sports, cultural, recreational, educational and healthcare infrastructure.*

- Recreational center around the oxidation pond (relocation suggested).
- Relocation of sports areas (from Estadio Revolución Moreno to the sports complex).
- Create a new network of bike lanes.
- Improve the infrastructure of the existing hospital.
- Build new schools and universities.

## Public spaces

Maintain and improve the quality of life through the provision of green and recreational areas, public facilities and accessibility to natural spaces such as beaches, rivers, dry ravines and the historic center.

### Network of public spaces

*Develop an interconnected network of public spaces that highlights the diversity of natural and recreational attractions in Loreto.*

- Develop a plan that includes an interconnected network of public spaces.
- Include a linear park with trails along the San Telmo stream as part of the public spaces network.
- Natural trails along the coast, including the Garzas estuary, La Negrita wetland, and El Bajo.
- Ensure access to beaches such as Juncalito Beach, La Negrita Beach, and El Quemado Beach.

## Mapping and Geographic Location of Recommendations

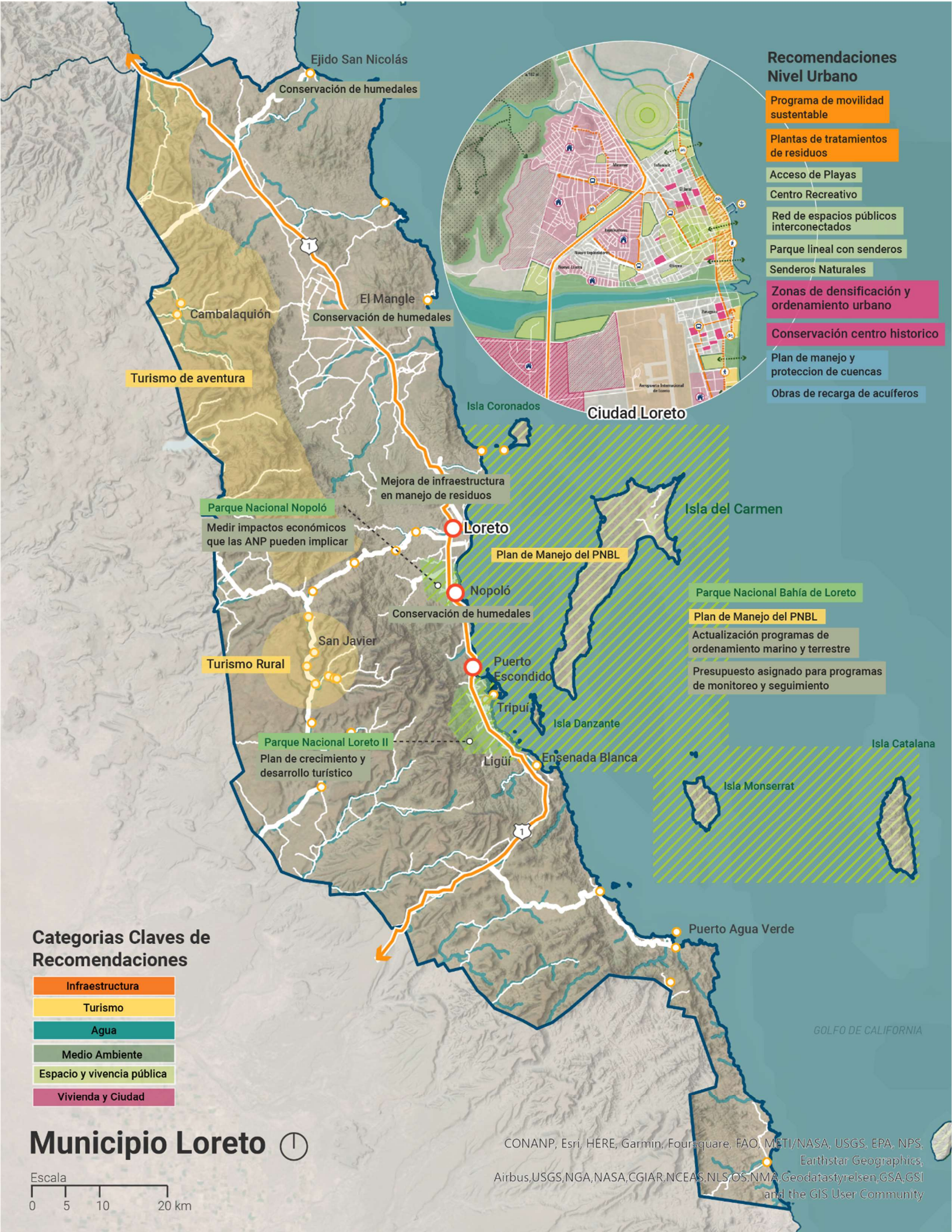
A map was developed to consolidate and synthesize the recommendations suggested during the workshop. This map illustrates, on both a regional and urban scale, the recommendations proposed in the territory. This territorial approach is crucial to understand where the recommendations are located and how they interact within the defined territory. In summary:

- **For the Environment**, recommendations are proposed regarding the management of new Protected Natural Areas (ANP), tourism development and ANPs, wetland management, growth regulation, and waste management. It is visualized on a regional scale.
- **Regarding Housing and City**, recommendations focus on urban planning regarding densification opportunities for new housing demand, conservation of the historic center, and integration of risk into regulatory instruments. These recommendations are visualized on an urban scale.
- **For Tourism Development**, the main economic activity, recommendations are suggested to support a transition to a low-impact tourism model with fewer negative effects. It is visualized on both a regional and urban scale.
- **In relation to Water**, a central issue for Loreto, recommendations are proposed that seek sustainable management of the water resource. These include both management and protection plans, as well as suggestions regarding infrastructure projects supporting

this purpose. It is visualized on a regional scale.

- **There is recognition of the need for various types of infrastructure improvements**, including roads, water, energy, sports, cultural, educational, and health. Recommendations focus on providing specific suggestions that address the priorities identified in the workshop within this area. It is visualized on both a regional and urban scale.
- Finally, **Public Space** is recognized as a relevant area to maintain and enhance the quality of life for Loretanos. The creation of a network of interconnected public spaces is proposed with specific interventions according to the participants' inputs. These recommendations are visualized on an urban scale.







## Final thoughts

The history of Loreto's development is well-documented and over the years, despite constant pressures, this municipality has maintained a low population density with a high quality of life. Historically, tourism has been the most significant source of pressure, as this sector seeks to capitalize on the potential of this region due to its natural beauty. However, this pressure has been controlled by the limited capacity of the government to address the required basic needs and by a very active civil society. While pressures from the real estate industry are not new, the threats and impacts resulting from development have changed in the last 20 years.

The struggle to find a balance between development and environmental and economic sustainability has been ongoing. While tourism promises economic stability, the Loreto community and local government have struggled to agree on where and how much development should occur. A stable economy would bring many benefits; however, the community is aware of the possibility of losing the Loreto cultural identity over time, the loss of biodiversity, and the significant increase in demand for vital resources such as water and energy. These impacts have the potential to bring about changes in Loreto's social structure, affecting the quality of life valued by both the local and visiting communities alike.

The Loreto 2050 workshop provided an opportunity for representatives of the Loreto community to reflect on and discuss the concerns and opportunities related to the future of Loreto. This reflection was based on updated information analyzed in the Alternative Futures study published in 2005. However, this new exercise aimed only to reach a consensus on the

management and conservation priorities to be considered. The results represent a vision of a future where spaces and activities that help shape identity and create cohesion in the social fabric of the city of Loreto and other communities in the municipality take precedence over uncontrolled development. This report contributes to planning processes by providing important information about the natural, cultural, and social capital that characterizes the region.

Currently, Loreto is undergoing the process of designing and publishing the Municipal Urban Development Program (PMDUL), which is an instrument that guides territorial management and in which activities considered to drive Loreto's development must be articulated. This document summarizes the physical, environmental, social, and economic characteristics of Loreto and attempts to present the best development options for Loreto. It emphasizes the mention of areas of high cultural and recreational value, as well as the recognition of the region's unique biodiversity. However, it also mentions larger-scale tourism development as a strategy for the future, something identified as undesirable during the Loreto 2050 workshop.

One of the biggest challenges facing the municipality of Loreto is to ensure that there are sufficient budgets to implement approved plans and programs. Municipalities receive around 1.4% of the collected fiscal funds (Martínez de la Torre, 2007), which come from taxes related to real estate activity and the provision of drinking water and sewage services. In addition to continuing to advocate for greater fiscal autonomy for municipalities, it is imperative to create spaces that allow greater citizen participation in processes dedicated to defining spending priorities.

Undoubtedly, the economic stability of the municipality is of great importance, and it is necessary to prioritize the organization of activities related to tourism, fishing, and services to ensure that they benefit society without compromising the sustainability of the ecosystems that support them. Although designed to include citizen participation, the process that followed the development of the Municipal Urban Development Program (PMDUL) had limited involvement, even though it is in the public consultation stage, which represents another opportunity for society to contribute to its evaluation and improvement.

The Loreto community must make use of existing spaces not only to provide feedback to these processes but also to strengthen governance systems that can ensure transparency and accountability in processes addressing issues relevant to social well-being. In turn, these dynamics will help strengthen and build bridges of communication between civil society, government, and the private sector.

# Annexes





# Annex 1: List of workshop participants

	Participant's name	Institution
	Municipal services	
1	Ing. Jesús Getzemani López Rubio	OOMSAPAL- Organismo Operador Municipal Saneamiento, Agua Potable y Alcantarillado
2	Ing. Enrique Grajeda Cázares	Coord. Reciclaje
3	Biol. Mayra Gutiérrez	Ponguinguiola / Alianza Desplastificate
4	Alejandro Flores	Ponguinguiola / Alianza Desplastificate
	Urbanism, housing and infrastructure	
5	M.C. David Gracia	FONATUR- Analista especializado del CIP Loreto
6	Lic. Silvia Salas Cariño	SEDATU- Secretaría de Desarrollo Agrario, Territorial y Urbano
7	Lic. Alejandro Guadarrama	Consultor SEDATU PMDU
8	Arq. Yvo Arias Salorio	Col. Arquitectos sección Loreto
9	Ing. Omar Campos	Col. Ingenieros sección Loreto
10	Ing. Hugo Quintero Maldonado	Consejo Asesor EcoAlianza
11	Jesús Guevara	Regidor comisión residuos sólidos
	Economía	
12	Felipe Silva Ortega	Dirección Turismo Loreto
13	Maciel Acosta	Rep. Asociación de Hoteles y Prestadores de Servicios Turísticos
14	Alondra Amador	Alianza Hotelera de Loreto
15	Sixto Lombero Romero	Subcomité de Pesca y Acuacultura Sustentable de Loreto
16	Rita Patricia Gutiérrez	Marina Puerto Escondido
17	Adrián Davis	Secretario Turismo, Economía y Medio ambiente
18	Josh Newman	Newman advisors
19	Rodolfo Palacios	Asociación Guías Turismo
	Environmental Management	
20	Dr. Noe Abraham Santamaría Gallegos	UABCS Loreto
21	Lic. Rodolfo Palacios Romo	CONANP-Responsable PNBL
22	Dra. Iris del Castillo Velasco Martínez	CONANP-PNBL
23	M. C. José Juan Ulibarría Valenzuela	REAL
24	Luis Martín Castro	Grupo tortuguero San Basilio

Threats and Risks Management		
25	Dr. Enrique Hernández Brandi	Protección Civil de Loreto
26	Lic. Víctor Gandarilla Porras	SMN- Cambio climático, meteorología
27	Dra. Micheline Cariño	UABCS
Culture and Society		
28	M.C. Joaquín Muñoz Rendón	Comité de Conservación y Protección del Centro Histórico de Loreto
29	Profa. Karina Ramírez Trevizo	Rep. Red de Educadores Ambientales de Loreto (REAL)
30	Profa. Nereida López Cruz	Dirección educación Ayuntamiento de Loreto
31	Lee Fitzgerald	Mesa directiva Eco-Alianza
32	Tony Kinninger	Consejo directivo Eco-Alianza
33	Linda Kinninger	Mesa directiva Eco-Alianza
34	Kathy Mitchell	Mesa directiva Eco-Alianza
35	Chuck Mitchell	Consejo directivo Eco-Alianza
Core Team		
36	Carlos Posadas	EcoAlianza-Facilitador mesa
37	Nidia Ramírez	EcoAlianza-Toma notas
38	Magdalena Valenzuela	GeoAdaptive- Facilitador mesa
39	Bárbara Ávila	GeoAdaptive- Facilitador mesa
40	Juan Carlos Vargas	GeoAdaptive- Facilitador
41	Catalina López	IOA- Facilitador mesa
42	Richard Kiy	IOA
Support Team		
43	Dana Quintero	EcoAlianza-Toma notas- transcripciones
44	Andrea Lucero	EcoAlianza-Toma notas- transcripciones
45	Priscila Conde	EcoAlianza-Toma notas- transcripciones
46	Mario Moreno	EcoAlianza-Toma notas- transcripciones
47	Verania Talamantes	EcoAlianza-Toma notas- transcripciones
48	Estefany Amador	EcoAlianza transcripciones
49	Andre Garayzar	EcoAlianza-apoyo general

## Annex 2:

# What is the most valuable thing about Loreto? (Activity 1)

### Activity description:

Activity 1 consists of three sub-activities: (1) identification of characteristic aspects and the most valued elements of Loreto, (2) classification according to their level of importance and fragility of development, and (3) geographical location on a map of the region.

Identification of characteristic and most valued aspects of Loreto by group:

Table of information per group for Activity 1: Most valuable places in Loreto

Group	Most valuable places and/or activities in Loreto
<b>Group 1</b>	<ul style="list-style-type: none"> <li>- Loreto Islands</li> <li>- Tourist Activities</li> <li>- Specific Coastal Beaches in front of Loreto and Loreto Bay.</li> <li>- Shore Fishing Sites (for individuals without access to their own boats due to costs)</li> <li>- Ecotourism - Camping and Hiking Sites (Without marked hiking trails or access)</li> <li>- Beaches with open access for the enjoyment of the local people.</li> <li>- Area of Puerto Escondido.</li> <li>- Sierra de La Giganta (Preservation of the Natural Area and Water Catchment).</li> <li>- San Javier, Agua Verde, San Juan Londó (Integration of Localities).</li> <li>- Historical Center (Cultural and Identity Value).</li> <li>- Valle de San Juan Londó (aquifers, water catchment)</li> <li>- Tabor Canyon</li> <li>- Beach "El Quemado" (kayaking outings, forced entry and exit point)</li> <li>- Touristic, Economic, Environmental Importance</li> <li>- Carmen Island (tourist attraction, cultural importance, salt areas).</li> <li>- Recreational and Sports Spaces</li> </ul>
<b>Group 2</b>	<ul style="list-style-type: none"> <li>- Social Cohesion – History and Cultural Roots</li> <li>- Organized Loreto</li> <li>- Loretana Identity, Missions</li> <li>- Taking pride in where we live</li> <li>- United Productive Groups – Common Goals</li> <li>- Ecotourism Geographic Points (nature activities)</li> <li>- Pangones Islands</li> </ul>



	<ul style="list-style-type: none"> <li>- Sierra (Hiking, Fauna, Streams, etc.)</li> <li>- La Negrita Beach Estuary</li> <li>- Watercourse Naming - Important Points</li> <li>- San Juan (Aquifer)</li> <li>- Juncalito</li> <li>- Sports Areas - Missions (San Javier, Loreto)</li> <li>- Canal between the islands</li> <li>- Gastronomy Museum (smoked clams, any clam product, etc.)</li> <li>- Las Garzas Estuary - Tabor</li> <li>- San Telmo</li> <li>- Religious Activities</li> <li>- Civic Activities</li> <li>- Hunting - Historic Center</li> <li>- Culture and Tradition Kayaking,</li> <li>- Ecotourism</li> <li>- Nature Tourism, etc.</li> <li>- Sports Activities</li> <li>- Nopoló</li> <li>- Social Exchange Programs</li> <li>- Tabor</li> <li>- Local Festivals</li> <li>- Estuaries</li> </ul>
<b>Group 3</b>	<ul style="list-style-type: none"> <li>- PNBL (National Park of the Baja California Peninsula): For sport fishing (Isla del Carmen, Coronado)</li> <li>- San Javier: Cultural tourism, history, and crafts.</li> <li>- Tembabiche, ejido San Nicolás: These are fragile and important areas due to their fishing and history. Statistically, they are considered, but these communities are not mentioned.</li> <li>- All of Loreto Municipality: Land tenure.</li> <li>- Historic Center: For its architectural and cultural heritage (museum and mission).</li> <li>- Mobility: There is no "perfect" mobility, but transport times are short even though there are no parking spaces.</li> </ul>
<b>Group 4</b>	<ul style="list-style-type: none"> <li>- Juncalito, a beach for enjoyment, is part of the ANP (Natural Protected Area). A flagship site for the people of Loreto.</li> <li>- Increase in floating and resident population generates waste that can contaminate water, soil, and air.</li> <li>- If the population increases, so do the impacts.</li> <li>- Culture of Agua Verde and economic activity, community tourism.</li> <li>- Coronado already has activity and is impacted.</li> <li>- Catalana Island is restricted, used for scientific activities, research, and fishing.</li> <li>- Safety and tranquility. There is security for walking, enjoying, and preserving.</li> <li>- Emphasis on microplastics, a severe problem, disposable products on the rise.</li> </ul>

	<ul style="list-style-type: none"> <li>- Commercial fishing captures fish with microplastics (La Paz). - Consumption of microplastics requires implementation and enforcement of the law. -Availability of drinking water, without water, one cannot live.</li> <li>- San Basilio, potential development of conservation activities, ecotourism, fishing, a source of employment. Potential mining activity.</li> <li>- Fishing culture.</li> <li>- Conservation of resources: Blue whale.</li> <li>- Conservation of Catalana Island, trails on Danzante Island.</li> <li>- Conservation of fishing culture -Eco-tourism activities - Conservation of San Javier Mission</li> <li>- Careful with recreational use areas on Coronado Island.</li> <li>- Attention to the development of San Basilio.</li> </ul>
<b>Group 5</b>	<ul style="list-style-type: none"> <li>- Fishing</li> <li>- Cultural activity (historic center)</li> <li>- Diving areas (on islands) - ecotourism</li> <li>- Humidity / Estuaries</li> <li>- Sierra</li> <li>- San Javier / Ranches</li> <li>- Marine biodiversity</li> <li>- City scale</li> <li>- Wetlands: Ensenada BCS, Nopoló, El Mangle, San Juanico</li> </ul> <p><i>Opportunities:</i></p> <ul style="list-style-type: none"> <li>- Groundwater recharge projects</li> <li>- Solar energy</li> <li>- Problems with redensification</li> <li>- Valorization of housing within the urban area</li> <li>- Drug addiction</li> </ul>
<b>Conclusión / Consensus</b>	<ul style="list-style-type: none"> <li>- Cultural tourism of San Javier</li> <li>- Historic center (Cultural and identity value)</li> <li>- Touristic activities</li> <li>- Beaches</li> <li>- Juncalito</li> <li>- Agua Verde</li> <li>- Sierra de La Giganta (Preservation of the natural area and water catchment) / Hiking, Fauna, Streams, etc.</li> <li>- Fishing culture</li> <li>- Islands</li> <li>- Touristic activities - nature</li> </ul>

## **Parameters for classification of the level of fragility and importance**

The identified places were classified based on their fragility and importance. The fragility of the place and/or activity refers to the ability of a place or activity to cope with a certain type of risk to which it is exposed. It represents the degree of deterioration and the capacity for recovery. The following parameters were considered for classification:

- High fragility: If the place is intervened, it is exposed to a high probability of deterioration and has little capacity for recovery.
- Medium fragility: If the place is intervened, it is exposed to a probability of deterioration, but it has the capacity for recovery.
- Low fragility: If the place is intervened, it is exposed to a low probability of deterioration and has a high capacity for recovery.

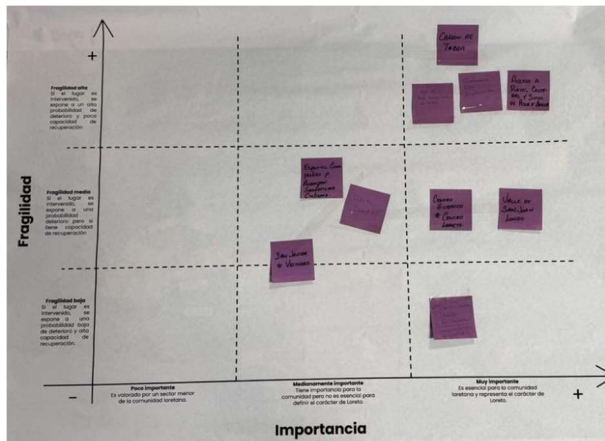
The level of importance of the place refers to the significance that this place has for the Loreto community and whether it is representative in defining the character of Loreto. The following parameters were considered for classification:

- High importance: It is essential for the Loreto community and represents the character of Loreto.
- Medium importance: It is important for the community but not essential for defining the character of Loreto.
- Low importance: It is valued by a smaller sector of the Loreto community.

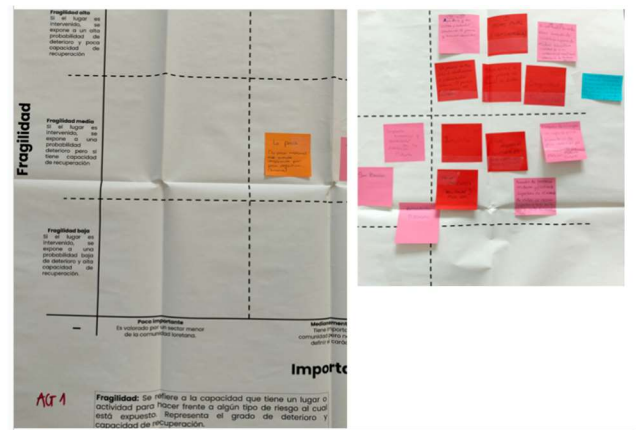


## Fragility and importance group posters

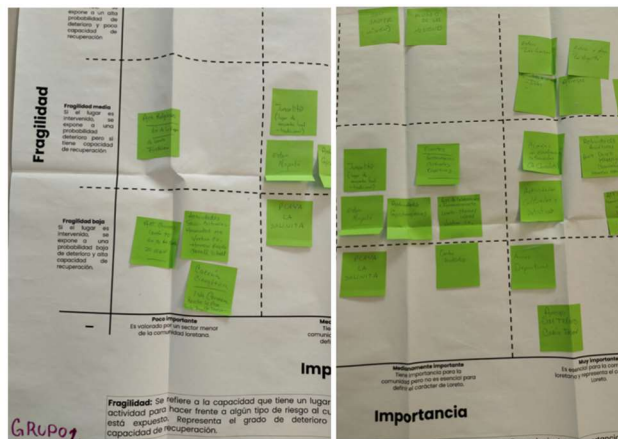
Group 1



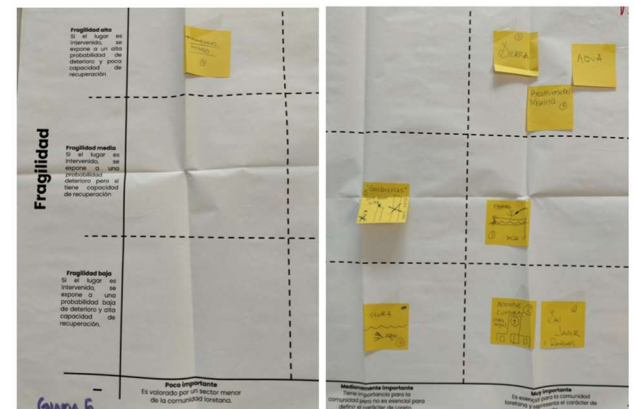
Group 4



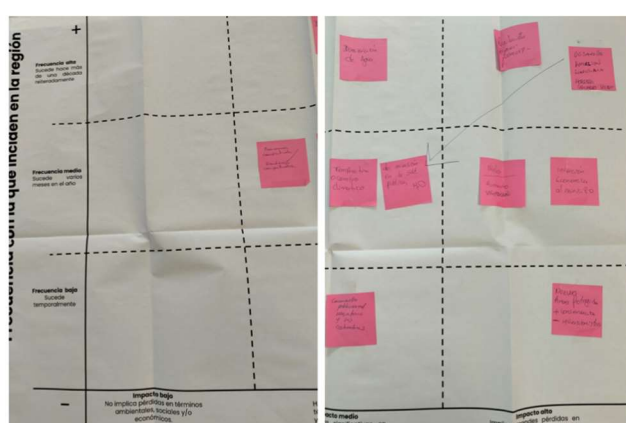
Group 2



Group 5

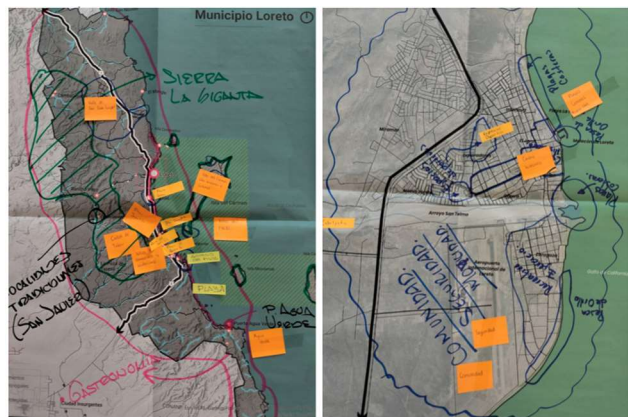


Group 3

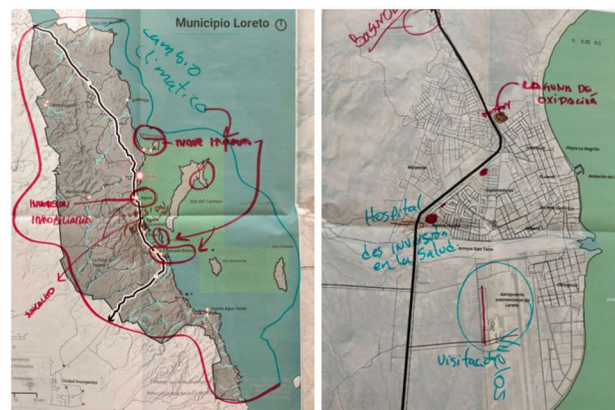


## Mapping and geographic location of the most valued places by group.

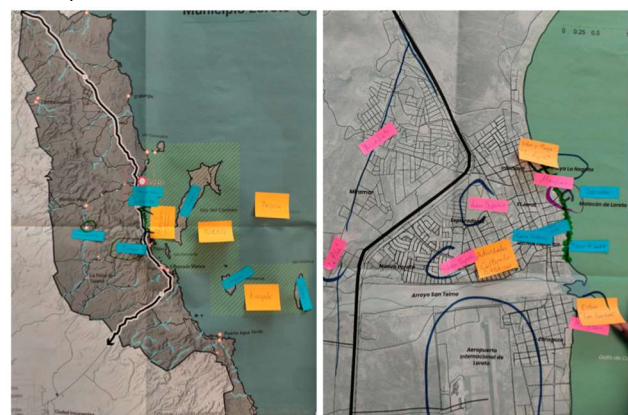
Group 1



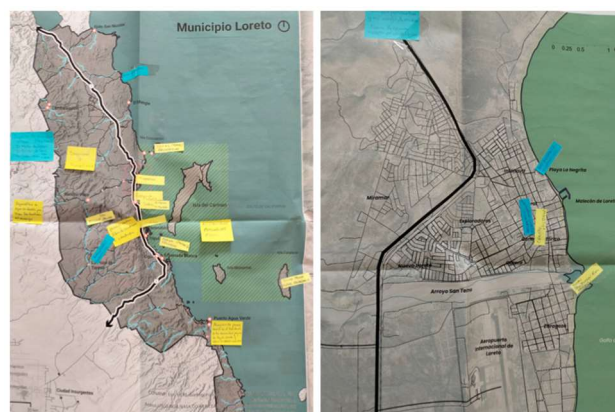
Group 3



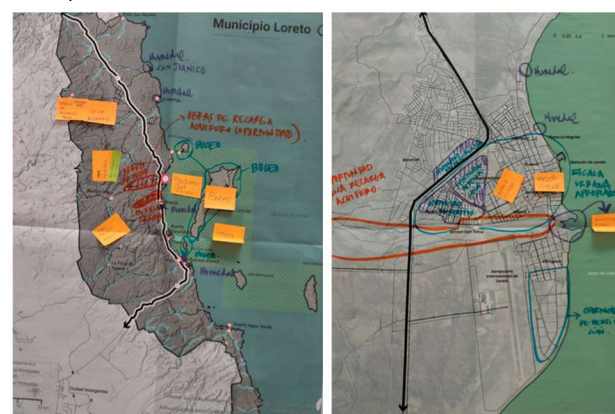
Group 2



Group 4



Group 5



## Annex 3: How can valuable places and activities be affected by drivers of change? (Activity2)

### Objective:

Define the main drivers/impetuses for change and transformative elements that will determine the future of the region. Identify drivers of change and plot them on the map.

### Activity description:

Workshop participants identified the drivers of change that most significantly influence the development of the region through three sub-activities: (1) identifying the main drivers of change, (2) locating them according to their frequency and impact, and (3) plotting them on a map of the municipality/city.

### Drivers of change identified by group:

#### Summary table of drivers of change by group

Group	Drivers of change
Group 1	<p>Greater impact and frequency:</p> <ul style="list-style-type: none"> <li>Overexploitation of natural resources</li> <li>Tourist demand</li> <li>Climate change</li> <li>Unplanned urban growth</li> <li>Touristic development</li> <li>Cultural roots (+)</li> <li>Workforce (restricting economic development, lack of personnel)</li> <li>Education (+)</li> <li>Changes in consumption habits (increased waste generation, greater access to other goods).</li> <li>Land acquisition (hoarding, blocking public access)</li> <li>Lack of sustainable mobility (high transportation costs, mechanisms, infrastructure, and/or elements to have it). (Lack of sidewalks, etc.)</li> </ul> <p>Others:</p> <ul style="list-style-type: none"> <li>Productive diversification</li> <li>Declaration of Protected Natural Areas (ANP) (+)</li> <li>Update planning instruments (-)</li> <li>Pandemic (-)</li> <li>Housing availability (xx)</li> <li>Migration</li> </ul>



<b>Group 2</b>	<p>Greater impact and frequency:</p> <ul style="list-style-type: none"> <li>Corruption</li> <li>Availability of water consumption</li> <li>Energy cost</li> <li>Lack of formal professional education</li> <li>Artisanal fishing</li> <li>Seasonal tourism</li> <li>Immigration</li> </ul> <p>Others:</p> <ul style="list-style-type: none"> <li>Public policy in tourism</li> <li>Environmental public policy</li> <li>Hydrometeorological phenomena</li> <li>Organized crime</li> <li>Identity as a driver of social cohesion</li> <li>Currency impact</li> </ul>
<b>Group 3</b>	<p>Greater impact and frequency:</p> <ul style="list-style-type: none"> <li>Fishery regulation</li> <li>Real estate investment development (Nopoló)</li> <li>Economic investment in the municipality</li> <li>Frequency of flight arrivals has a positive impact due to the economic contribution and a negative impact due to the resource consumption it generates.</li> <li>Disinvestment in public health - no specialties available</li> <li>Climate change - Temperature increase - fishing</li> <li>Shared economy/Shared residences. Airbnb - increased stays and increased economic activities in tourism (Exponential growth)</li> <li>Decrease in water availability.</li> </ul> <p>Others:</p> <ul style="list-style-type: none"> <li>New protected areas (positive for conservation, negative for investment)</li> <li>Population growth, migration, and their customs.</li> </ul> <p>Other comments:</p> <ul style="list-style-type: none"> <li>Organized crime monopolizes the sale of alcoholic beverages, cigarettes, etc.</li> <li>PNBL: Double impact, positive and negative depending on convenience, but negatively impacts the fisherman.</li> <li>Climate change: Medium impact, medium frequency. Compared to historical droughts in BCS (1900 to 1950), the same has not been observed currently.</li> <li>Health sector: Disinvestment in infrastructure and human resources as a driver of change</li> <li>Inadequate oxidation lagoons as a driver of change</li> </ul>
<b>Group 4</b>	<p>Greater impact and frequency:</p> <ul style="list-style-type: none"> <li>Population growth</li> <li>Water demand</li> </ul>

	<p>Energy demand</p> <p>Real estate speculation for tourism and second residents - economic driver</p> <p>Climate change: droughts - environmental driver</p> <p>Tourism and economy: lack of productive diversification</p> <p>Lack of a collaborative municipal planning program: all sectors of the municipality</p> <p>Drug trafficking in fishing</p> <p>Desalination plants</p> <p>High consumption of single-use plastic products due to increased pace of life and convenience and an increase in the floating population</p> <p>Lack of accessible land for local housing - irregular settlements</p> <p>Increase in demand for labor</p> <p>Local and foreign investment</p> <p>Lack of connectivity in access roads</p> <p>Unregulated tourism</p> <p>Others</p> <p>Mining activity</p> <p>New protected natural areas (ANP)</p> <p>Hurricanes: impact on infrastructure and open-air dumps, and contamination of the sea</p>
<b>Group 5</b>	<p>Greater impact and frequency:</p> <p>Drug addiction</p> <p>Climate change - Hurricanes: rain, wind, and road closures</p> <p>Short-term accommodation</p> <p>Air connectivity</p> <p>Others</p> <p>Earthquakes</p> <p>New protected natural areas (Positive environmental impact, negative economic impact, and social impact + / -)</p> <p>Nautical development (+) - Puerto Escondido</p> <p>Real estate development: Loreto Bay, Ensenada Blanca</p> <p>Informal hotel offer - Airbnb</p> <p>Urban growth</p>

## Parameters for frequency and impact level

Frequency refers to the repetition (how often they occur) of the driving forces for change and how their impacts affect the city. These are classified as follows:

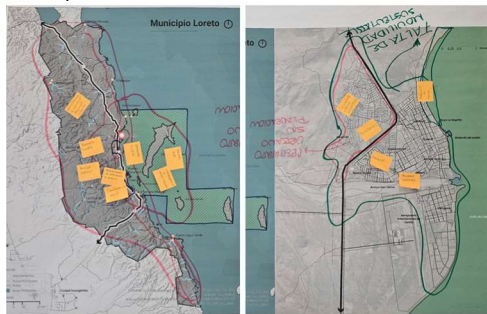
- High frequency: It has been happening repeatedly for more than a decade.
- Medium frequency: It occurs several months in the year.
- Low frequency: It occurs temporarily.

The impact of the driving force for change refers to the consequence of the effects of a driving force for change. It refers to losses in environmental, social, or economic terms.

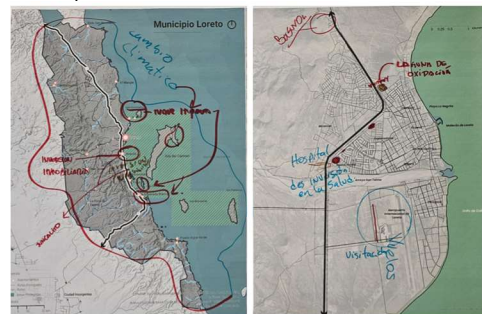
- High impact: It implies significant losses in environmental, social, and/or economic terms that take a long time to recover.
- Medium impact: There are significant losses in environmental, social, and/or economic terms; however, they are recoverable in a short period.
- Low impact: It does not imply losses in environmental, social, and/or economic terms.

## Mapping and geographical location of the driving forces for change

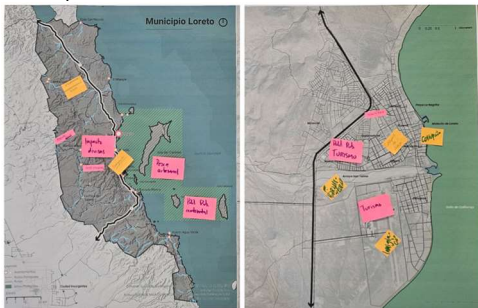
Group 1



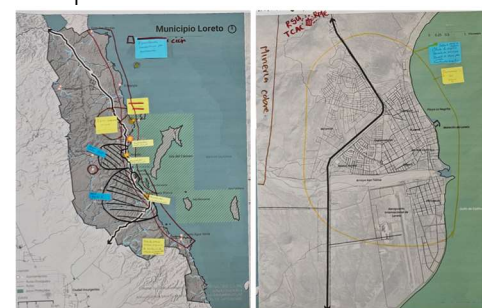
Group 3



Group 2



Group 4





# Annex 4: What would happen if nothing changes? – 2050 Baseline Scenario (Activity 3)

## GROUP 1

Summary table of characteristics of the baseline scenario for Group 1

Theme	Group 1
<b>Environment</b>	<ul style="list-style-type: none"> <li>• There will be a contrast between the state of the environment in the urban area and the Natural Protected Areas (ANP).</li> <li>• In the city of Loreto, due to the increase in tourist offerings and consumption habits, there will be a general deterioration of the environment due to pollution with waste, visual pollution, and air quality.</li> <li>• Biodiversity conservation and ecosystems in the ANPs will remain in balance due to the management and regulation of activities.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>• The community shows segregations of areas by economic level, increasing the gap between people with a high purchasing power and those with a low level.</li> <li>• Land and housing rental become more expensive, reaching levels that most locals cannot afford.</li> <li>• Scarcity of housing due to the increase in Airbnb.</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Tourism changes its profile; there is more nature tourism and national tourism with lower purchasing power, but it increases the demand for public services and will cause greater restriction of access to beaches due to the development of new projects in beach areas.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>• The water demand crisis continues to increase due to population growth and tourism. Water rationing will be required, and alternative supply sources need to be developed.</li> <li>• The water treatment system will need to be expanded to compensate for discharge problems.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• New infrastructure will be required to provide more public services, leading to increased financial pressures on the Municipality.</li> <li>• The road system collapses due to the increase in vehicles.</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>• Pressures arise to standardize the image of Loreto as a tourist destination due to the change in the tourist profile from expatriates to local or low-profile tourists.</li> <li>• The arrival of people to work brings new uses and customs that will prevail in different areas of the city and influence the community in general.</li> </ul>

## Narrative 2050 Baseline Scenario - Group 1

Visitor to Loreto, upon your arrival, you will find a place with a very marked contrast regarding the state of the environment, one part beautiful and the other not so much; you will be able to observe that natural spaces, mainly the Natural Protected Areas (ANPs), are well-preserved, with high biodiversity and beautiful landscapes. However, if you visit the city, you will see environmental deterioration due to visual pollution and solid waste.

If your idea is to reside in the city of Loreto, you will encounter a great challenge and headache, as the prices of land and rental housing are through the roof. Not only that, but it is quite difficult to find something available since most are Airbnb rentals per day.

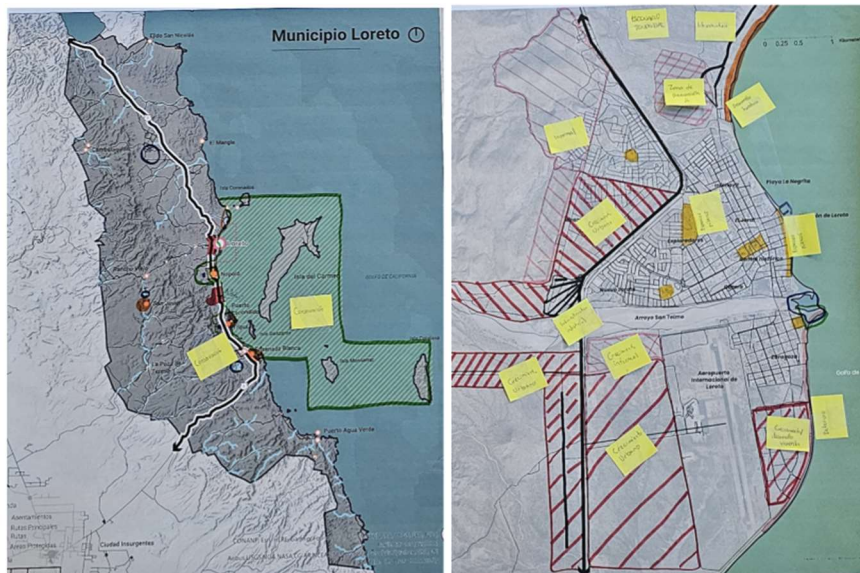
On the other hand, if your idea is to come on vacation, as a tourist, you may be a national, as the type of tourism that shows a positive trend. Additionally, if you are economically capable, you may find several lodging offers in tourist developments along the coast, which likely may not allow access to the beach.

You will also encounter another negative aspect, which is the availability of water, so you will have to plan other resource supply sources. You may come across places with an unpleasant odor due to inefficient water treatment.

It is possible that if you circulate in the city during certain hours, you will encounter traffic jams and parking problems. Transportation will be very expensive if you do not have your own vehicle since there is no public transportation.

When you visit the city, you will find there are areas where the character is very different from that of 20 years ago; the sense of community that distinguished Loreto is diluted, and no longer there.

## Map 2050 Baseline Scenario – Group 1







## GROUP 3

**Summary table of characteristics of the baseline scenario for Group 3**

Theme	Group 3
<b>Environment</b>	<ul style="list-style-type: none"> <li>Environmental disorganization, no protected areas, as real estate investment would take over the most fragile and representative areas (Villas del Palmar). Our protected areas would have little regularization, and the personnel would be insufficient.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>Disorganization and poor planning. Lack of land, inability to provide services and infrastructure due to a lack of resources proportional to needs, lack of planning, and demographic and urbanistic explosion that planning instruments cannot keep up with. No enforcement of laws for urban development and informal housing.</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>More hotel and second home real estate boom that could displace locals, more frequent and cause-driven tourism (spring breakers, resorts, not nature, history, and culture). Impact on services and infrastructure, affecting the cost of living.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>There will be contamination from waste (sewage, poor planning, hydraulic, administrative). Decrease in aquifers due to poor resource utilization, over-demand on the aquifer, and little to no regulation in resource use.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>Weakening and exhaustion of insufficient public investment concentrated in the center and tourist towns, leaving many neighborhoods marginalized in terms of infrastructure.</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>Public space would be reduced due to the privatization of areas. Costs would increase, and housing options for the average Loreto resident would decrease. The city would extend towards the mountains.</li> </ul>



## GROUP 4

**Summary table of characteristics of the baseline scenario for Group 4**

Theme	Group 4
<b>Environment</b>	<ul style="list-style-type: none"> <li>Population increases; change in land use/more waste generation.</li> <li>Desalination plant; severely affects the marine environment of the PNBL.</li> <li>High number of plastic products that harm marine species and the landscape.</li> <li>Lack of rural planning program.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>Real estate speculation. Housing becomes more expensive (gentrification).</li> <li>Population increases. Demand surpasses supply.</li> <li>Plastic waste affects the landscape and cleanliness of the city.</li> <li>Public spaces lose security due to drug trafficking.</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>Increased tourism raises the demand for water and electricity, causing the local population to become a lower priority in the supply.</li> <li>Plastic usage increases, leading to pollution.</li> <li>Rise in drug trafficking.</li> <li>Economic speculation undermines the local economy.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>Population growth generates higher water demand.</li> <li>The increased demand for water is intended to be addressed with desalination plants.</li> <li>Damage to marine water.</li> </ul>
<b>Infrastructure</b>	
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>Real estate speculation: increased housing costs.</li> <li>Dispossession of local lands and loss of identity.</li> <li>Loss of security due to drug trafficking.</li> <li>Public space prioritizes tourism.</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>Drug trafficking affects fishing development and scares away fishermen.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>If concessions are developed, they impact all activities and the environment.</li> </ul>



## **Narrative 2050 Baseline Scenario - Group 4**

Economic growth was not regulated considering the availability of natural resources and the municipality's capacity to offer public services. Tourism grew uncontrollably, leading to increased water scarcity and high demand for electricity. Due to insufficient water, desalination plants were established, which, by discharging brine and other pollutants into the sea and land, severely affected terrestrial and marine ecosystems. To address the over demand for electricity, solar plants were installed, which, falling into disuse after 25 years, turned into scrap, exacerbating the toxic waste problem.

Environmental damage was worsened by the overload of the municipal "dump" and the excessive amount of all types of waste, particularly plastics. This led more organic and toxic waste to end up in the sea, increasing the impact on biodiversity, which was already at the resilience limit due to rising temperatures.

The municipality's terrestrial territory was also severely affected by land use change, mainly due to real estate speculation. This specialization of the economy solely towards tourism caused a high demand for construction materials for infrastructure and housing. The road infrastructure degraded over time without maintenance, compromising communication routes in the municipality. To build this infrastructure and housing and attempt to provide services to the growing population, there was a strong demand for labor. Initially insufficient, Loreto attracted many workers from other regions of the state and the country. After a few years, this migrant population faced difficulties finding decent housing, leading to the establishment of colonies in high-risk areas lacking services, urban infrastructure, and security. Construction waste generated by these developments increased pollution.

Another type of tourism that got out of control was nautical tourism. This allowed the establishment of a cruise ship dock that, without proper management, contributed significantly to increased sea pollution and the devastation of its species. When whales, turtles, dolphins, rays, and orcas disappeared, tourism dwindled, as interest in visiting Loreto had vanished.

Artisanal fishing also disappeared, causing an irreparable loss of sovereignty and food security, as well as affecting local culinary culture. By the early decades of the 21st century, many species, like the famous chocolate clam, were already depleted, and the limited quality fishing was exported, putting great pressure on locals to consume marine foods. Due to the impact of global warming on the sea, fishing communities were already struggling to make a living. The rich fish and seafood that grandparents once enjoyed became only a memory.

Drug trafficking took control of fishing communities, demanding more money from them to allow them to work. This plague also affected city businesses, demanding protection money from them. The security that Loreto once enjoyed ceased to exist due to violence generated by drug

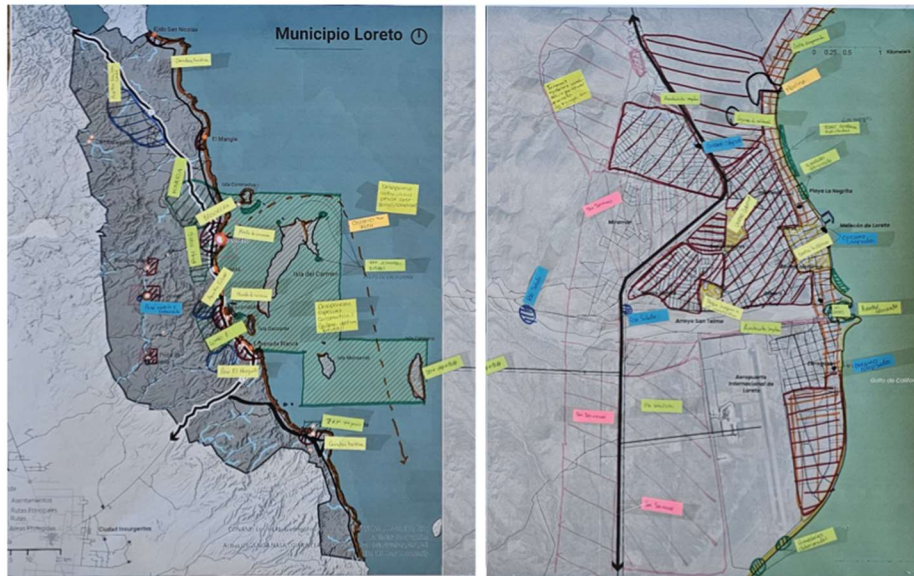
dealing and clashes between organized crime groups. What was once a peaceful town has also become a memory.

The dispossession of lands where fishing communities were located, caused by real estate speculation, dealt a final blow to fishing culture. The coast closed off, and the sea became exclusive to tourist developments and secondary residences of the wealthy. The fishing culture that once characterized the municipality remained only in historical records and collective memory.

As if these troubles were not enough, all environmental destruction, both terrestrial and marine, was exacerbated by mining development. Copper mining concessions in the mountains became operational. Huge pits were made with the extraction of rocks and minerals, along with deep tailing ponds. When the membranes of these receptors broke, their toxic liquids spilled into the mountains, percolating into aquifers and ending up on the beaches and the sea.

The growth of tourism and mining without planning and without citizen oversight destroyed the cultural and natural heritage of the people of Loreto. We deeply regret not having been more actively and decisively involved in preventing and stopping such a disaster.

#### Map 2050 Baseline Scenario - Group 4



## GROUP 5

**Summary table of characteristics of the baseline scenario for Group 5**

Theme	Group 5
<b>Environment</b>	<ul style="list-style-type: none"> <li>Without a risk atlas, the impacts of hurricanes increased, leading to road closures, modification of the coastline, and the affectation of estuaries and wetlands.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>Lack of legal foundation (residential areas for urban growth) will result in overcrowding issues. Informal settlements, invasion of risk zones, lack of public services, increased insecurity, and rising short-term accommodation rents (Airbnb).</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>Protected Natural Areas (ANP) limit real estate development; however, Nopoló would continue developing for tourism.</li> <li>Carrying capacity exhausted in tourist sites (e.g., Coronado Island).</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>Nopoló faces water scarcity (due to current low utilization capacity).</li> <li>Puerto Escondido experiences water scarcity (low capacity).</li> <li>San Juan Londó aquifer depletion (water stress).</li> <li>Water cuts due to lack of energy.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>Pollution from solid waste, wastewater, traffic congestion (heavy traffic), power outages, and low internet signal.</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>Lack of parks and recreational areas, loss of beach access, low family interaction.</li> </ul>

### Narrative 2050 Baseline Scenario - Group 5

Unfortunately, due to the lack of waste management areas, we couldn't foresee the disasters and damages to our infrastructure. However, the worst part is the irreversible harm done to our beaches and wetlands; consequently, the damage to the marine park is incalculable and irreparable.

On the other hand, as we never addressed the issue of land and did not request an orderly population distribution, improvised settlements proliferated. Providing public services is now five times more expensive, and it's nearly impossible to maintain surveillance and security. Moreover, the few available places to live are at very high costs.

Due to a lack of regulation in tourism, uses and tenures exceeded natural and historical capacities, affecting their original composition. Additionally, new tourist constructions did not care for or foresee the use of resources, depleting existing ones and generating a very complicated and expensive deficit to address.

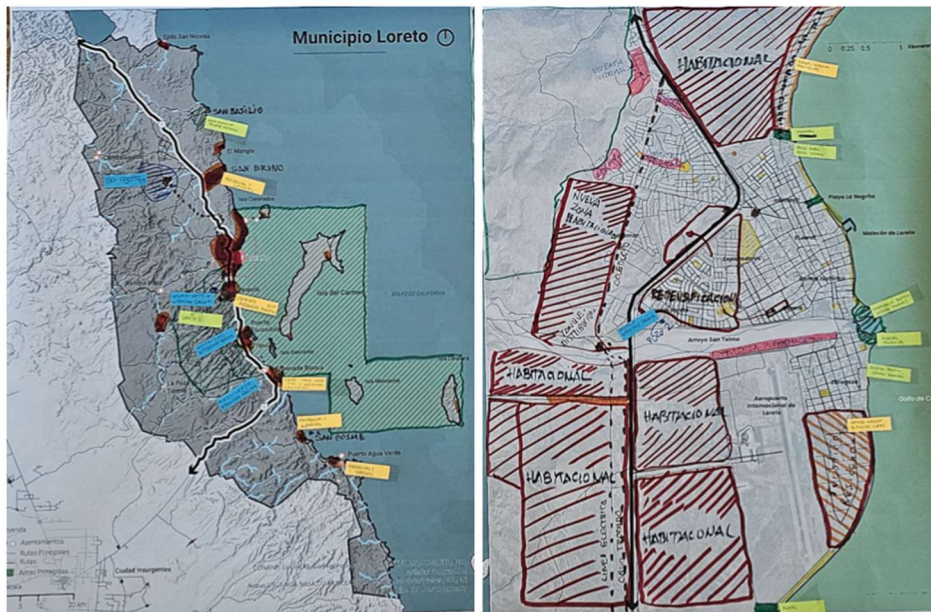


For the same reason of lack of planning, the issue of water is now an unsolvable problem. The wells have run dry, and obtaining potable water is ten times more expensive than it was 20 years ago.

Without controlling the population growth throughout the municipality, the infrastructure collapsed. The landfill became overwhelmed with demand, and currently, Loreto lacks public spaces, causing issues with coexistence, vandalism, crimes, and drug addiction, severely impacting Loreto's social fabric. There is nothing resembling "quality of life" anymore.

- Global warming, pollution of the sea, air, and environment.
- Lack of legal foundation.
- Unordered settlements.

### Map 2050 Baseline Scenario - Group 5



## GROUP 6

### Map 2050 Baseline Scenario - Group 6



# Annex 5 What is the future we want for Loreto?

## – Desired Scenario 2050 (Activity 4)

### GRUPO 1

Summary table of characteristics – Desired Scenario 2050 Group 1

Theme	Group 1
<b>Environment</b>	<ul style="list-style-type: none"> <li>• The territorial and ecological planning program will be updated. All ANPs (Natural Protected Areas) will continue with an updated management program, with sufficient resources for monitoring and conservation activities in these areas.</li> <li>• A comprehensive waste management system will be established and efficiently implemented.</li> <li>• There will be a well-regulated and controlled landfill.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>• Population growth will be planned, especially in peripheral areas such as Miramar and Rivera, with order through a zoning plan and urban development program.</li> <li>• Regulation on the number of licenses or permits for new Airbnb accommodations will be implemented, following a Zoning Plan and Urban Development Program.</li> <li>• Increase in housing options and opportunities in Exploradores and Nuevo Loreto.</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• A room capacity limit will be defined for lodging (Airbnb).</li> <li>• Greater options and opportunities for training and specialization in tourism services.</li> <li>• Promotion of adventure tourism in the Sierra and rural tourism, diversification of tourism, and reduced pressure on the PNBL.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>• Management and conservation of watersheds.</li> <li>• Treatment plants with greater capacity and efficiency, increased control over water charges (fee system) depending on usage, as well as charging for water treatment.</li> <li>• Prohibition of golf courses.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• Improvement of existing public spaces.</li> <li>• Improvement of the road network in Miramar, entrance, and exit to Loreto.</li> <li>• Relocation of the oxidation lagoon, transforming it into a public recreation center.</li> <li>• Sustainable mobility program (rental bikes, bike taxis), public transportation.</li> <li>• Improvement of medical services: increase in specialized personnel and improvement of facilities.</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>• More public recreation centers: around the oxidation lagoon, natural trails along the San Telmo stream and throughout the coast, including Las Garzas estuary, La Negrita wetland, and El Bajo.</li> </ul>



## Narrative Desired Scenario 2050 – Group 1

Dear visitor, welcome to Loreto in 2050, a community that preserves the charm of a magical town while enjoying efficient and high-quality modern services. We did our homework and organized the development of the town, improving the protection and use of the Natural Protected Areas (ANP). Natural resources have been preserved and, in some cases, enhanced, creating opportunities to diversify productive and recreational activities.

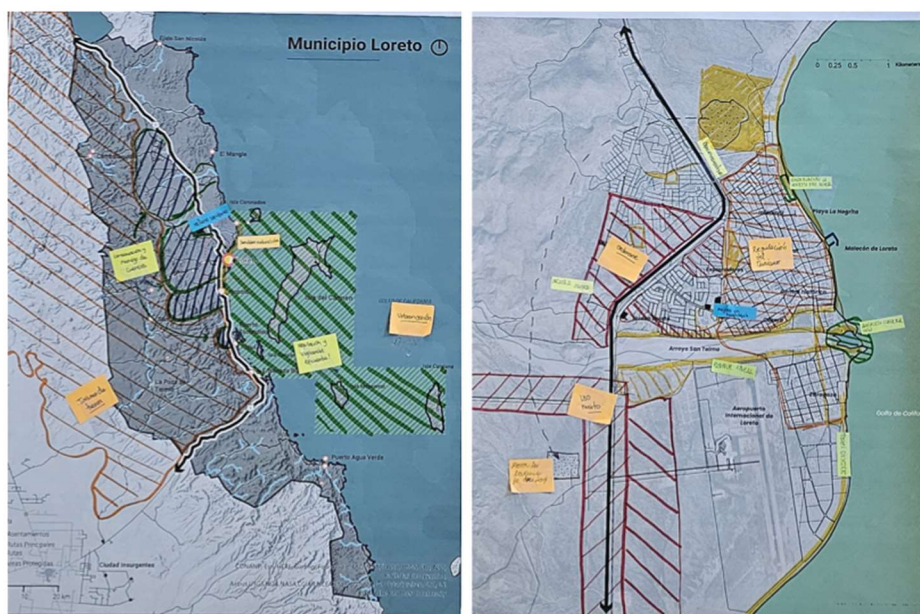
We have a clean Loreto because we have a new landfill and a modern, functional comprehensive waste management system that not only controls waste but also promotes its local use in circular economy initiatives. We turned a problem into an opportunity by promoting recycling and reuse. We regulated urban growth, protected the urban image, and didn't allow irregular settlements.

We created mechanisms to regulate and organize the shared economy accommodation activities, limiting and distributing water allocation, and controlling waste. We promoted land-based tourism activities such as hiking, bird watching, camping, climbing, mountain biking, etc., and opened opportunities for residents of rural areas to diversify their activities. This benefited in better management of grazing lands, conservation of watersheds, increased rainfall capture, and job opportunities for local youth entering the workforce.

We developed infrastructure to better use and treat water, established water billing systems based on zones/uses, allowing us to ensure we have quality and quantity water. We relocated the oxidation lagoon to a better site. We created recreational, recreational, and exercise areas, and improved the health system.

We have a sustainable mobility system with public transport based on vans, bike taxis, a shared bicycle system with safe and convenient bike lanes. We protect beach access, and they are kept clean and in excellent condition.

## Map of desired scenario 2050 – Group 1



## GROUP 2

### Summary table of characteristics – Desired Scenario 2050 Group 2

Theme	Group 2
<b>Environment</b>	<ul style="list-style-type: none"> <li>• We have a study. The marine park preserves biodiversity, and the coastal area (beaches, estuaries, and dunes) remains intact.</li> <li>• A landfill will be available to prevent pollution from garbage in islands, streams, and the water table.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>• Housing is developed in a delimited urban area.</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Hotel offerings are controlled and regulated through platforms.</li> <li>• Areas behind the coastal zone are residential. In the historic center, there is a mix of hotels and residential and service areas.</li> <li>• The nature tourism vocation of the destination is maintained.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>• Adequate water distribution network.</li> <li>• We have quality water.</li> <li>• There is a good water utilization system (water culture).</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• Adequate hydraulic infrastructure is in place.</li> <li>• There is road infrastructure.</li> <li>• There is sports infrastructure in residential areas.</li> <li>• There is cultural infrastructure (next to Hacienda Suites).</li> <li>• Hospital infrastructure, especially medical care, is available.</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>• There is a well-equipped second municipal auditorium.</li> <li>• There are recreation and socializing spaces in residential areas.</li> </ul>

### Narrative Desired Scenario 2050 – Group 2

Tourism, the main economic activity, has greatly benefited from the regulation of Airbnb, contributing to the sustainable planning of the destination. The aquifer is in balance, with water capture systems and a water culture in place. Hydraulic infrastructure undergoes constant maintenance and is more abundant. There is sufficient and high-quality water.

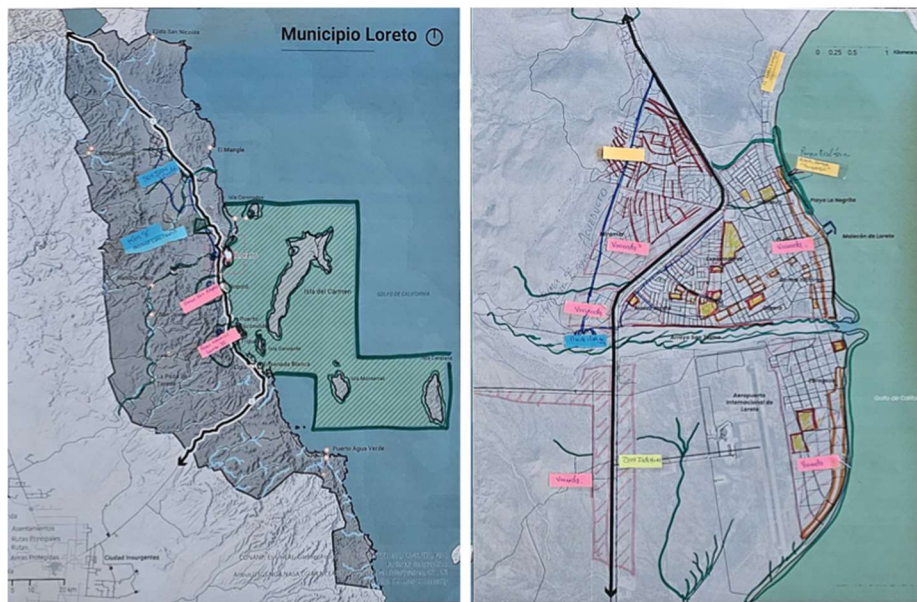
Urban plans have been respected, providing enough, dignified housing in areas without risk. Adequate roadways, quality pavement, and efficient bypasses are in place. Our environment has not undergone significant changes; reforestation has been carried out appropriately, and solid waste is treated according to regulations, including its final disposal.

We have hospitals that well cover the needs of the population and visitors. There are spaces for family and sports gatherings where locals enjoy time with family and friends, clean beaches,

sports fields, and various educational options for our children to become contributing citizens to the betterment of our town.

Our cultural events continue to transcend throughout the region, such as the San Javier festivities, the founding of Loreto, and the celebrations of the Virgin, undoubtedly providing identity and social cohesion to all inhabitants, especially the youth. We have been respectful of the Natural Protected Areas, allowing us to continue enjoying the unparalleled landscapes of the combination of mountains and sea.

### Map of desired scenario 2050 – Group 2





## GROUP 3

### Summary table of characteristics – Desired Scenario 2050 Group 3

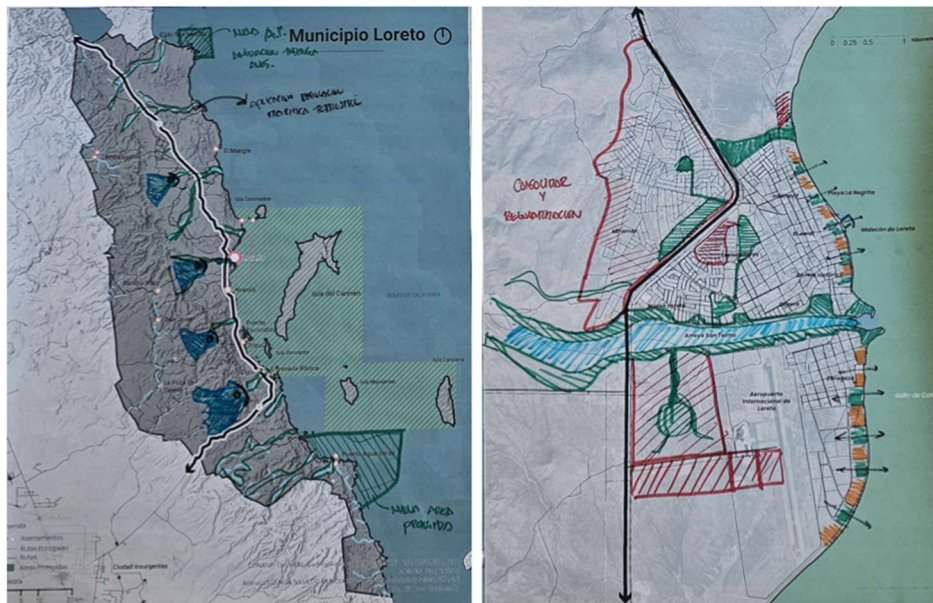
Theme	Group 3
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Continue taking care of water and preserving our natural resources by implementing and seeking competent legal development plans, ensuring that the authorities fulfill their corresponding duties.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>• Develop a planned and urbanized development plan in a way that allows for the control and integration of green or recreational areas with dignified housing for all residents of Loreto.</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>• Generate tourist development.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>• Provide information on the potable water network, instill a water culture, and regulate the water catchment areas in the aquifers.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• Invest in hospitals, schools, and universities, including equipment and training for the workforce.</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>• Create a network of interconnected parks and urban spaces.</li> </ul>

### Narrative Desired Scenario 2050 – Group 3

1. Loreto has grown with better planning, featuring high-quality spaces where everyone enjoys the same benefits. Despite the population density, we now have an urban network of green spaces in different areas of the city, and they are interconnected.
2. Previously, there were no living spaces, but now, thanks to a well-implemented urban development plan, we have managed to consolidate neighborhoods to accommodate growth. The consolidation and regularization are part of the city's growth policy. This has helped improve public finances, as infrastructure is not provided to distant areas that isolate the community. Moreover, these communities have been provided with dignified infrastructure and services. Growth has focused on three zones:
  - The northern zone of Infonavit and Jaral.
  - The consolidation of Miramar.
  - A new section of the Zaragoza neighborhood near the airport.
3. Regarding water, despite the population increase, we have managed to preserve water sources in the mountains through a network of catchment areas and four water reservoirs. The distribution and management of water infrastructure are more efficient, and we have reduced the leaks and losses we had before. Additionally, a water culture and awareness have been generated, thanks to the active role of the municipality and organizations like EcoAlianza, creating awareness that we did not have previously.

4. Water quality has improved as we have reduced sewage discharges into the sea. This has also benefited the wetland systems at each stream's mouth, ensuring recreational use of the beaches for all Loreto families and visitors through a program called "Access to My Beach." Now, each stream has municipal zoning and protection regulations, which also serve as recreation and groundwater recharge zones.
5. Marine conservation has improved thanks to a new resource management program that provides sufficient personnel and resources for the protection and surveillance of our marine parks. In fact, two new municipal marine parks have been declared: a new municipal marine park near San Nicolás, where we have protected turtle and bird nesting, and a new park in Agua Verde, which is now connected to the Loreto Bay National Park.

### Map of desired scenario 2050 – Group 3



## GROUP 4

**Summary table of characteristics – Desired Scenario 2050 Group 4**

Theme	Group 4
<b>Environment</b>	<ul style="list-style-type: none"> <li>Recovered no-fishing zones</li> <li>Increased research efforts</li> <li>Full personnel with sufficient budget</li> <li>Increased sightings of charismatic emblematic species</li> <li>Declaration of wetlands for conservation</li> <li>Adequate management</li> <li>Mining pressure in Loreto was contained</li> <li>Updated and implemented legal instruments (Federal, State, and Municipal)</li> <li>Natural Protected Areas have all necessary resources for effectiveness</li> <li>Establishment of new areas dedicated to conservation</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>Designated spaces meet necessary services</li> <li>Controlled growth</li> <li>Access to dignified housing facilities, regulated lands</li> <li>Ejido provides formal real estate with services</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>Controlled tourism activities, low impact</li> <li>Tourism activities on islands are maintained according to a management plan</li> <li>Tourism is no longer the majority economic activity</li> <li>Consolidation of tourism diversification (foreign, national, and regional tourism)</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>Clean beaches</li> <li>Implementation of techniques for rainwater harvesting (gabions, dams)</li> <li>Improved water quality, watershed recharge</li> <li>Increased awareness of rational water use/vigilance</li> <li>Efficient use of wastewater</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>The municipality provides proper maintenance of land routes</li> <li>Reduction in waste generation, and proper treatment</li> <li>Implementation of routes for sustainable mobility (bicycles, pedestrian paths, others)</li> <li>Functional treatment plants</li> <li>Accessible specialized clinics for all (social security)</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>Respect and prioritization of the historic center, recovery, and preservation of cultural and historical identity</li> <li>Availability of public spaces for socializing, recreation, culture, arts, sports, and more green areas</li> <li>Decrease in drug trafficking consumers and areas for their activities</li> </ul>
<b>Fishing</b>	<ul style="list-style-type: none"> <li>Regulated, protected, and value-added fisheries products</li> <li>Implementation of sustainable mariculture and aquaculture</li> <li>Recovery of fishing activity and species (clam)</li> </ul>



#### **Narrative Desired Scenario 2050 – Group 4**

The residents of Loreto were able to organize themselves and actively engage in planning and building the future they desire for their children and grandchildren. We successfully collaborated with municipal authorities to control the growth of tourism and mining, applying legislation and planning instruments.

Economic growth was regulated, considering the availability of natural resources and the municipality's capacity to provide public services. Tourism expanded while considering water availability without resorting to desalination plants, thus avoiding contamination of the sea and land due to brine waste and other pollutants. To meet electricity demand, the number of tourist-dedicated rooms was limited. Construction after 2023 followed bioclimatic criteria, reducing electricity consumption for air conditioning.

The issue of solid waste management was addressed through campaigns that reduced single-use plastics, promoting reuse of containers and minimizing the use of polluting products. An efficient municipal landfill was built, minimizing waste of all types, especially plastics. Beach and stream cleanups by citizen volunteer groups prevented organic and toxic waste from reaching the sea. The lack of pollution pressure favored the recovery of marine and terrestrial biodiversity, mitigating the impacts of global warming.

The ability to choose the type of tourism we desired led us to promote a low-impact and low-density tourism offering. Instead of closing our beaches for large resorts, as in other locations in the state, fishing communities in rural areas and urban citizen-built cabins integrated into the landscape, along with spaces for camping groups practicing kayaking and scientific tourism. This approach helped preserve our marine and terrestrial ecosystems, valuing their landscape and biodiversity.

We avoided an economy specialized in tourism by promoting economic diversification. Efforts were made to support fishing through the establishment of fishing refuge areas. Illegal fishing was controlled, processes were implemented to add value to fishery resources, and special attention was given to mangrove and wetland conservation to favor fishing productivity and protect marine biodiversity. Artisanal fishing has been reinforced, making fishing communities more resilient and proud contributors to food security and sovereignty, preserving their original culture.

Control of economic growth prevented demographic explosion, allowing housing and public services to match slow-growing demand. The ejido was provided with formal real estate agencies offering services and preventing the establishment of irregular settlements.

Construction and maintenance of road infrastructure improved communication between municipalities, enhancing health and education services, even in the most isolated locations.

Water demand was not excessive, so the extraction of precious water from aquifers was balanced with recharge. Rainwater harvesting techniques, such as gabions, increased aquifer recharge

capacity. The water distribution network was fully repaired to eliminate leaks. Programs for water care and rational consumption were implemented, achieving efficient use of wastewater due to well-functioning treatment plants. This was facilitated by providing water-saving sanitary and hydraulic infrastructure in all households.

To promote the re-signification of historical identity, the historic center, the San Francisco Xavier mission, and surrounding oases were protected. Interpretation and historical dissemination centers were created at these historical sites, positively affecting tourism diversification and educating new generations about the value of their identity, preserving it as invaluable heritage.

Educational offerings at all levels have improved, with more and better schools every day, from primary to university education. Health services cover the basic needs of all residents, and there is a preventive medicine system that makes the population very healthy.

Nautical tourism was limited to small boats strictly controlled to avoid their discharges affecting the marine environment. The establishment of a cruise pier was avoided, considering it a high risk to the PNBL marine biodiversity and its economic impact on the city was very limited.

There are public spaces for socializing, recreation, culture, sports activities, and more green areas. Since the construction of these facilities, outstanding athletes and promising artists have emerged. The youth and children of Loreto have thus avoided the risks of drug addiction and other idleness. In areas that were once under FONATUR, public parks were created for environmental education activities, and nurseries for reforestation with native species are available to all municipal residents.

Among the public recreation spaces, it is worth highlighting access to all beaches in the municipality open to the local population and a variety of activities. These include fishing, sports, various sports competitions, adventure tourism, family recreational activities, and the healthy coexistence of locals and visitors.

As vigilant citizens of our spaces and activities, who managed to contain demographic explosion and tourism growth, drug traffickers lost consumers and opportunities for criminal activities.

The people of Loreto have worked hard to build this better future for themselves and set an example for other locations. We have had to participate in many workshops and public consultations, learning the intricacies of planning instruments and environmental and human settlement legislation. But ultimately, the effort has been worthwhile. We live in a peaceful city, in harmony with visitors, valuing and protecting our cultural and natural heritage. All of this gives us an enviable quality of life that we have earned through collective effort.

## GROUP 5

### Summary table of characteristics – Desired Scenario 2050 Group 5

Theme	Group 5
<b>Environment</b>	<ul style="list-style-type: none"> <li>A sufficient and efficient landfill, an effective and comprehensive waste management program, strengthened management of the ANPs (Natural Protected Areas), and environmental education programs.</li> </ul>
<b>Housing and city</b>	<ul style="list-style-type: none"> <li>Reordering of the legal framework, urban sprawl densification, economic activities diversification, circular economy, inclusive mobility plan, traffic and civic education, relocation of government offices to preserve the historic center.</li> </ul>
<b>Tourism</b>	<ul style="list-style-type: none"> <li>Organization of tourist activities, professionalization of service providers, culturalization of the local population in terms of tourism and sustainability, regulation of sustainability in service providers.</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>A culture of savings in the population, reuse of wastewater, moderate use of existing wells, aquifer recharge works in San Juan Londó, dams and weirs in the "PILAR" and "LAS PARRAS" streams.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>Wastewater treatment plants with sufficient capacity, reuse of treated water for irrigation, installation of solar farms, construction of stepped dams, modernization of the drinking water network, sustainable public services, bypass road, efficient public transportation, and mobility.</li> </ul>
<b>Public spaces and housing</b>	<ul style="list-style-type: none"> <li>Correctly designed roadways, guaranteed access to beaches and streams, relocation of sports areas (Revolution Moreno Stadium to the sports complex), we have outstanding baseball teams, space for bicycle use (bike lanes).</li> </ul>

### Narrative Desired Scenario 2050 – Group 5

Hello! Welcome to Loreto, nowadays we have a sufficient and efficient landfill, an effective waste management program, strengthened management of the ANPs (Natural Protected Areas), and environmental education programs. Our society is integrated with the environment, and its activities operate sustainably.

With the reordering of the legal framework and urban sprawl densification, Loreto looks clean and organized, with happy citizens welcoming our new visitors. We have harmonization in tourist regulations and professionalization of service providers. By raising awareness of Loreto's geographical situation, we have developed a water-saving culture, reused wastewater, implemented necessary works for aquifer recharge, and established dams and weirs for water collection. A solar farm (providing electricity to homes and public lighting), the treatment plant is well-maintained with sufficient capacity for reused treated water, and the drinking water and sanitation network has been modernized.



We have properly designed roadways and make the most of public spaces like the historic center, ensuring guaranteed access to beaches and streams. Sports areas are being relocated, and there is a significant bike lane. We have outstanding teams in baseball, cycling, basketball, and have created a city that includes everyone. With a circular economy, we prioritize health and have access to these services. We have time to think about how to continue improving and leave the best place for our children and loved ones. Thank you, Loreto!

### Map of desired scenario 2050 – Group 5

