Social Perception and Socio-Environmental Conflicts in the Interoceanic Corridor: The Influence of Land Tenure and Territorial Governance

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1. INTRODUTION

The 2019 National Development Plan includes the Program for the Development of the Isthmus of Tehuantepec, which promotes the Interoceanic Corridor of the Isthmus of Tehuantepec (CIIT). This project aims to improve connectivity, reduce transportation costs and times, and integrate the region into global logistics networks (SHCP, 2019; Torres Fragoso, 2022). However, the region has historically been a site of social conflict in response to incoming investments and development projects (Díaz Carnero, 2017). Although the government projects a positive impact (Gobierno de México, 2021), it is crucial to analyze the perceptions of social actors to understand the socio-environmental implications of the CIIT. Local perceptions directly influence the success of public policies and their adaptation to specific contexts (Fernández Moreno, 2008; Tavares-Martínez, Fitch-Osuna, 2019).

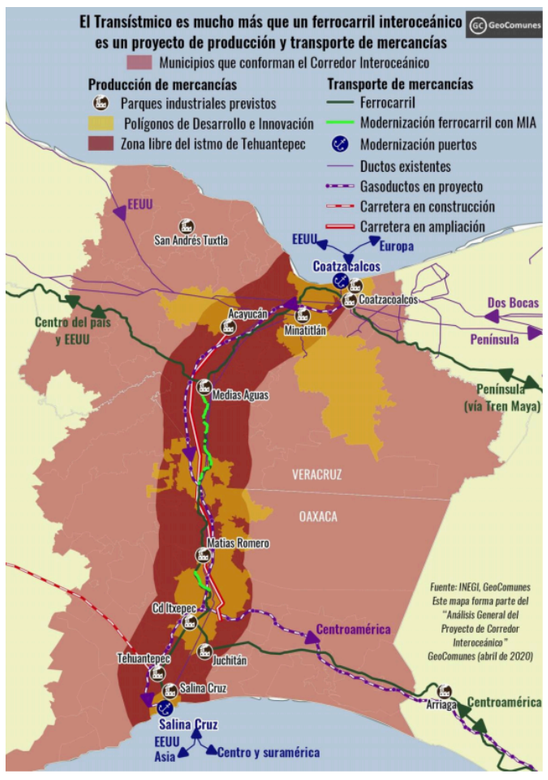


Figure 1. Map of the Interoceanic Corridor Megaproject of the Isthmus of Tehuantepec
Created by GeoComunes Collective, 2020.

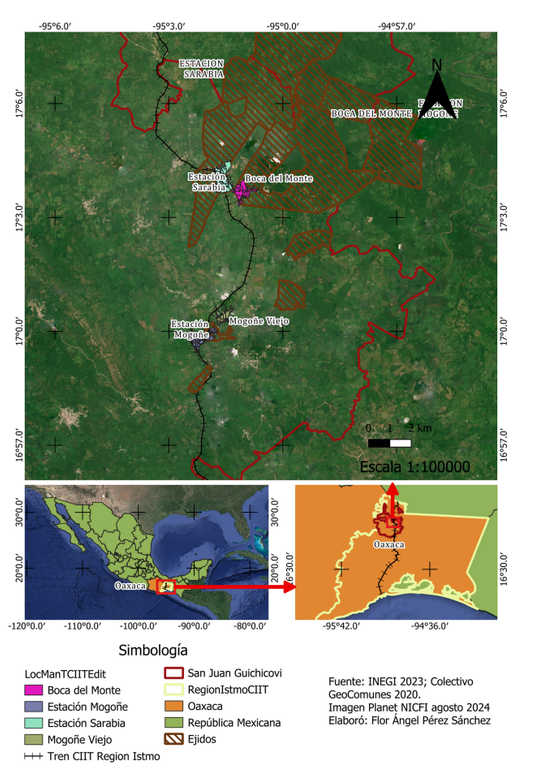


Figure 2. Map of the study area, including the four localities and ejidos in the municipality of San Guichicovi, Oaxaca.
Created by the author based on GeoComunes, 2020, and INEGI and RAN, 2024.

2. DATA AND METHODOLOGY

Qualitative research emphasizes the perspective of actors and the contextual analysis in which it develops, focusing on the meaning of social relationships (Tarrés, 2001).

- Geographical location: Study area location.
- Characterization and identification: Identification of socio-environmental conflicts in the Isthmus of Tehuantepec. A map of socio-environmental conflicts was created based on newspaper reviews.
- Identification and typology: Social actors' identification, typology, and network analysis.
- Design and elaboration: Instruments for semi-structured and open interviews were designed and developed.
- Application of interviews: 70 semi-structured and open interviews conducted, with participant observation.

3. PRELIMINARY RESULTS

Application of Semi-Structured and Open Interviews.
The interviews were conducted from July 22 to August 19, 2024, after obtaining consent from local authorities. The selection of participants was carried out using the snowball sampling technique, where interviewees recommended other relevant informants. (Table 1) .

Table 1. Overview of Categories and Details from 70 Semi-Structured and Open Interviews in the Four Ejidos of the Study

Category	Details
Gender	51 men, 19 women.
Age	Between 30 and 78 years.
Ethnicity	54 mixe, 4 zapotec, 2 mixtec, 2 mixe-zapotec, 8 not identified with any ethnic group.
Occupations	Farmers, ejidal officials, merchants, homemakers, retired teachers, environmental rights defenders, navy officers, construction, agrarian visitors.

A review of local and national news identified eight indigenous communities in Oaxaca's Isthmus region affected by socio-environmental conflicts. These conflicts involve internal disputes between agrarian authorities, communal landowners, and ejidatarios. Additionally, the region has experienced militarization, with the presence of the National Guard, SEMAR, and SEDENA. The impacted communities include Mixe and Zapotec populations across several municipalities.

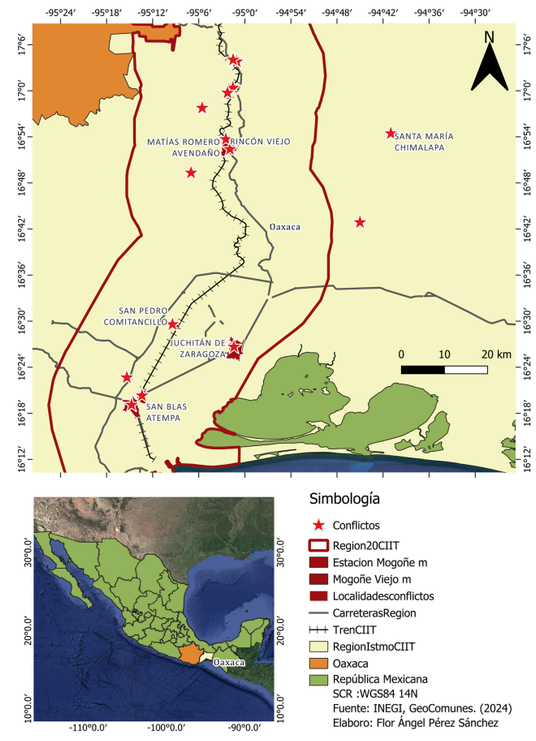
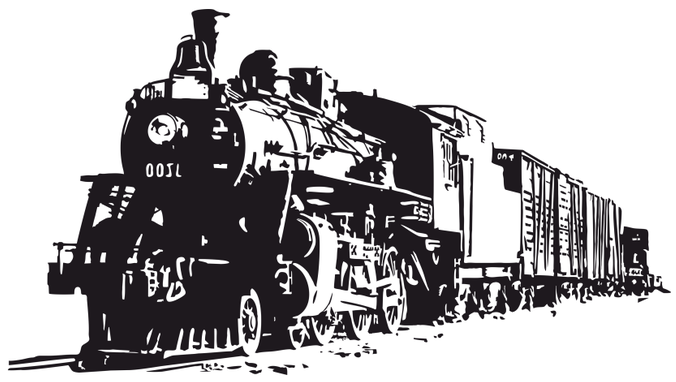


Figure 3. Map of socio-environmental conflicts triggered by the implementation of the CIIT.
Prepared by the author based on GeoComunes, 2020, and INEGI and RAN, 2024.

Fig. 4. Word cloud analysis generated from responses to the question posed during semi-structured interviews in the ejidos: What is your opinion of the CIIT? Source: https://www.nubedepalabras.es/

THE INTERVIEWEES BELIEVE THAT THE CIIT WILL BRING THEM BENEFITS AND, FOR THE MOST PART, THEY ARE IN FAVOR OF THE PROJECT. ALTHOUGH THEY DO NOT EXPECT DIRECT BENEFITS, THEY THINK THAT PRIVATE COMPANIES WILL CONTRIBUTE TO THE GOVERNMENT OF MEXICO, WHICH, IN TURN, WILL GENERATE SOCIAL PROGRAMS THAT WILL INDIRECTLY BENEFIT THEM. OF THE FOUR EJIDOS, ONLY ONE ACKNOWLEDGES THE POSSIBILITY OF ENVIRONMENTAL IMPACTS AND IS IN THE PROCESS OF PLANNING HOW TO ADDRESS THIS SITUATION. THESE FINDINGS ARE PRELIMINARY, AS FURTHER IN-DEPTH QUALITATIVE ANALYSIS IS STILL NEEDED.



4. TECHNOLOGICAL REFLECTIONS

In analyzing the social perception of socio-environmental conflicts related to the CIIT mega-project, various technologies and artificial intelligence are considered that can enrich the research:

1. Sentiment Analysis: Natural Language Processing (NLP) tools will be used to evaluate comments on social media and interviews, identifying emotions and perceptions of the local population.
2. Geographic Information Systems (GIS) with AI: The integration of AI-powered GIS will facilitate the mapping of conflicts related to land tenure, providing clear visualizations of territorial dynamics.
3. Predictive Modeling: Using machine learning, potential socio-environmental conflicts can be predicted based on historical patterns related to territorial governance and political decisions.

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