

> White Paper No. 1

Denuncia Popular

Legal Complaint Infrastructure for Environmental Justice in Mexico

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Platform denuncia.esoteriaai.com

Division Public Intelligence

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Executive Summary

Denuncia Popular is a legal complaint generation platform that transforms citizen environmental observations into formally structured legal complaints under Mexico's General Law of Ecological Equilibrium and Environmental Protection (LGEEPA), Articles 189–193, directed to the Federal Attorney for Environmental Protection (PROFEPA).

The platform exists because the gap between witnessing an environmental violation and filing a legally valid complaint is large — requiring knowledge of environmental law, jurisdictional logic, regulatory authority structures, and document formatting that most citizens and community organizations do not have. Denuncia Popular eliminates that gap.

Built and operated by Esoteria as the anchor platform of its Public Intelligence division, Denuncia Popular is live at denuncia.esoteriaai.com, scoped to Baja California as its pilot region, with architecture designed for white-label expansion across Mexico and Latin America.

Capture first. Structure always. Direct to authority.

The Problem

Environmental violations in Mexico are witnessed daily — contaminated water sources, illegal dumping, land use abuse, deforestation, and industrial discharge in protected zones. Citizens see them. Communities are affected by them. The legal mechanisms to address them exist.

The problem is the distance between observation and action.

Filing a formal environmental complaint in Mexico requires navigating a system that was not designed for ease of use. A citizen must identify the correct regulatory authority — PROFEPA for federal violations, state environmental agencies for others. They must understand which articles of the LGEEPA apply to their specific incident. They must format the complaint in a way that meets institutional requirements. And they must do all of this without legal counsel, often in communities where institutional trust is low and resources are limited.

The result: the vast majority of witnessed environmental violations are never reported. Not because citizens lack awareness or concern — but because the process demands expertise they do not have.

> **Legal Framework Complexity**

LGEEPA spans multiple articles across federal and state jurisdictions. Identifying which provisions apply to a specific violation type requires specialized legal knowledge.

> **Jurisdictional Navigation**

Complaints must be directed to the correct authority. Federal versus state jurisdiction depends on the nature of the violation, the geography, and the type of actor responsible.

> **Document Formatting Requirements**

Formal complaints require structured documentation — specific fields, legal language, and evidentiary framing that informal accounts do not satisfy.

> **Institutional Distance**

In many communities, particularly in Baja California's environmental risk corridors, trust in regulatory institutions is low. The process feels inaccessible before it begins.

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The Platform

Denuncia Popular aggregates the legal framework, jurisdictional logic, and PROFEPA filing requirements into a single guided interface. The citizen describes what they witnessed. The platform generates the complaint.

How It Works

01 Guided Incident Documentation

A multi-step intake wizard guides the user through structured fact-gathering — location, date, nature of violation, responsible party if known, and available evidence. The interface is designed for mobile use and built for users without legal or technical backgrounds.

02 AI-Powered Legal Classification

The platform uses Google Gemini to analyze the incident description and automatically classify the violation against the relevant LGEEPA articles. Jurisdictional routing — federal versus state authority — is determined by the platform, not the user.

03 Complaint Generation

A formally structured legal complaint is generated — correctly formatted, legally framed, and directed to PROFEPA under Arts. 189–193 of the LGEEPA. The document meets institutional filing requirements without requiring any legal knowledge from the user.

04 Geospatial Precision

GPS coordinates are captured and embedded in the complaint. Location data enables jurisdictional determination, maps complaints against known environmental risk zones, and supports pattern analysis across incidents.

05 Privacy-First Architecture

No personal data is required to use the platform. Sensitive information is handled through governed edge functions. The platform is designed for use in environments where digital safety is a real concern.

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Technical Architecture

Denuncia Popular is built on the Esoteria Workbench infrastructure and follows a governance-first design principle — every component is structured, auditable, and built for institutional durability.

> Frontend

React 19 + Tailwind CSS 4. Mobile-first. Multi-step wizard interface with bottom sheets and touch gestures optimized for field use on low-cost Android devices prevalent in Baja California.

> Backend & Database

Supabase (PostgreSQL). Row-Level Security enforced at the database layer. Every complaint, session, and status change is governed by explicit RLS policies.

> AI Engine

Google Gemini for legal classification, semantic tagging, and violation categorization. Classification runs server-side through governed edge functions — not in the browser.

> Geospatial

Google Maps API integration with marker clustering and hotspot analysis. GPS coordinates embedded in every complaint record.

> Infrastructure

Cloudflare Pages for frontend deployment. GitHub Actions for CI/CD. Edge functions for all server-side operations including email dispatch and API key protection.

> Audit Layer

Every interaction, complaint status change, and system event is logged. The audit trail is permanent and traceable to source material.

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Governance & Data Principles

Denuncia Popular operates under Esoteria's governance-first design philosophy. These principles are non-negotiable and built into the architecture — not applied as policy after the fact.

> **Privacy First**

No personal identification is required to file a complaint. Users may submit anonymously. Sensitive data is never exposed through client-side operations.

> **No Surveillance Architecture**

The platform is explicitly not designed for law enforcement use, individual tracking, or punitive applications. Outputs are citizen-controlled legal documents, not data feeds for institutional monitoring.

> **Transparent Methodology**

Legal classification logic is documented. Jurisdictional routing rules are explicit. The platform does not make opaque decisions — every output is traceable to the rule that produced it.

> **Aggregation Over Attribution**

Pattern analysis across complaints focuses on regional and systemic environmental issues — not individual actors or identities. Intelligence outputs are designed for civic institutions and NGO partners, not enforcement bodies.

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Pilot Region: Baja California

Denuncia Popular is anchored in Baja California as its pilot region — a deliberate choice based on the region's environmental profile and Esoteria's operational presence.

Baja California sits at the intersection of industrial development, agricultural expansion, coastal ecosystems, and cross-border environmental pressure. PROFEPA complaint data for the region reflects patterns of water contamination, illegal dumping in protected zones, and industrial discharge — violations that affect communities with limited institutional access.

The pilot establishes the platform's core architecture, validates the intake and classification pipeline, and builds the civic data foundation from which regional environmental intelligence will be derived. Complaint data — aggregated and anonymized — becomes a structured intelligence

asset for NGO partners, researchers, and environmental accountability bodies.

The methodology is intentionally modular. The platform is designed for white-label deployment across Mexico and Latin America without redefining the core architecture.

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Expansion Model

Following pilot stabilization in Baja California, Denuncia Popular is available for white-label deployment by aligned NGOs, civic institutions, and environmental organizations across Mexico and Latin America.

White-Label Deployments

Partner organizations can deploy Denuncia Popular under their own brand and domain, configured for their specific region and regulatory context. The core legal classification engine, governance architecture, and intake pipeline are shared infrastructure. Regional legal frameworks, jurisdictional routing rules, and regulatory authority directories are configured per deployment.

Institutional Dashboards

NGO partners and civic institutions can access aggregated, anonymized complaint intelligence through governed dashboard outputs — regional pattern analysis, violation clustering by type and geography, and temporal trend data. These outputs are designed for advocacy, research, and policy engagement — not enforcement.

Who This Platform Serves

> Citizens

Anyone who witnesses an environmental violation in Baja California or Mexico and wants to take formal legal action without navigating the system alone. No legal knowledge required. No registration required.

> Environmental NGOs

Organizations working on environmental accountability that need a governed complaint intake channel and access to structured regional complaint data for advocacy and research purposes.

> Civic Advocacy Groups

Community organizations that support affected residents in documenting and filing environmental complaints — particularly in communities where institutional access is limited.

> Researchers & Journalists

Investigators who need structured, aggregated environmental complaint data for regional analysis, pattern identification, and accountability reporting.

> Partner Institutions

Organizations seeking to deploy white-label instances of the platform for their own regions, under their own governance framework, as part of a broader environmental justice infrastructure.

Conclusion

Environmental justice in Mexico does not fail for lack of law. It fails for lack of infrastructure — the structured systems that convert citizen knowledge into legally actionable intelligence.

Denuncia Popular is that infrastructure. It does not create new rights — those rights exist in the LGEEPA. It makes them accessible. It collapses the distance between witnessing a violation and

filing a valid complaint. It turns community knowledge into governed, auditable legal assets that regulatory authorities are required to process.

Built on a governance-first architecture, designed for the communities that need it most, and anchored in the specific environmental and legal context of Baja California — Denuncia Popular is the first public platform in Esoteria's Public Intelligence division. It is not a tool. It is infrastructure.

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For institutional partnerships, white-label deployments, or research access, contact Esoteria directly through esoteriaai.com/contact.