literature review is a systematic summary and evaluation of existing research, studies, and publications related to a specific topic or research problem.

RESEARCH PROBLEM SELECTED:

MOBILE/ CITIZEN -REPORTING AND PARTICIPATORY SENSING FOR ENVIRONMENTAL MONITORING.

Below is a concise, systematic review of at least three important studies on mobile/citizen-reporting and participatory sensing for environmental monitoring. ordered chronologically, with each study's methods, core findings, and relevance to a mobile app for reporting environmental violations.

(1) Early foundation — mobile citizen-science & social networking (Berkeley dissertation, 2012),

What they did: They examined how mobile phones and social networks can be used as platforms for citizen science and community data collection, outlining technical architectures and engagement strategies.

Key findings: Smartphones can convert citizens into distributed sensors (GPS, images, contextual metadata); social-networked features increase reach but introduce quality-control and privacy challenges.

Relevance: Use device sensors and social features, but plan for data validation, privacy controls, and lightweight UX for fast in the field reporting.

(2) Design & data quality considerations — "Developing mobile applications for environmental and biodiversity citizen science" (Povešham chapter, 2018).

What they did: They synthesized design recommendations across many citizen-science apps, focusing on interoperability, user-centered design, and data standards.

Key findings: Interoperability (standards, geotags, timestamping), participant-centered UX, and built-in quality control (photo metadata, automated validation checks) are essential to make crowdsourced environmental data useful to authorities and researchers.

Relevance: Implement standard metadata capture (GPS, timestamp, device info), simplify reporting flows, and include backend validation (e.g., required photo and location) to raise the credibility of violation reports.

(3)Risks, governance, and local case studies (Okoche et al., 2024; ELI report 2020s)

What they did: Recent research explores socio-technical risks of green crowdsourcing and reviews how agencies adopt citizen reporting tools—covering privacy, misuse, unequal participation, and institutional readiness.

Key findings: Crowd-sourced environmental apps can create real benefits (faster reporting, broader surveillance) but also risks: false reports, data privacy breaches, limited institutional capacity to respond, and biased participation (some groups under-represented).

Relevance; Plan for moderation and verification workflows, clear privacy policies, and integration with the responsible agency's processes so reports don't just accumulate unaddressed.