ISSN: 3029-0724

Research Article

Journal of Environmental Science and Agricultural Research

Preventive Governance of Natural Risks: Social Vulnerability and Legal Tools in Territorial Contexts

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Received: July 24, 2026; **Accepted:** August 05, 2026; **Published:** August 13, 2026

ABSTRACT
Natural hazards increasingly reveal territorial inequalities, showing that disaster impacts depend not only on the intensity of hazardous events but also on pre-existing social and institutional vulnerabilities. This article examines preventive governance as a legal and social framework aimed at reducing risk before disasters occur. The study adopts a qualitative and interdisciplinary approach, combining social vulnerability analysis with public law and public procurement perspectives. It focuses on how public spending and contractual instruments can support ex ante risk mitigation policies and strengthen territorial resilience. The analysis shows that prevention-oriented governance is not merely a technical strategy of anticipation, but also a redistributive mechanism capable of correcting structural imbalances among territories. When vulnerability assessments guide planning, budgeting, and procurement choices, preventive investments can align legal compliance with social effectiveness. The paper further argues that public contracts, through life-cycle costing, sustainability requirements, and outcome-oriented clauses, represent an important legal lever for integrating resilience objectives into ordinary administrative action. Finally, the study highlights that preventive spending should be regarded as a long-term social investment rather than a short-term cost, because it reduces emergency-driven expenditures and improves public accountability. The findings support the view that anticipatory and prevention-based governance can contribute to more equitable protection of communities exposed to natural hazards.

List of Abbreviations

IFRC : International Federation of Red Cross and Red Crescent Societies

Keywords: Natural Risks, Preventive Governance, Social Vulnerability, Public Procurement, Public Spending, Territorial Resilience

Introduction

Natural hazards do not affect all territories in the same way. Their consequences are shaped not only by the physical magnitude of the event, but also by the socio-economic and institutional characteristics of the affected areas. Territorial inequalities, fragile infrastructure, limited access to services, and weak administrative capacity often transform natural events into social disasters. In this perspective, risk is not exclusively an environmental or technical phenomenon, but also a legal and political issue.

The growing relevance of disaster prevention has encouraged a shift from emergency response toward anticipatory governance. Preventive governance refers to the set of legal, financial, and administrative tools used by public authorities to reduce exposure and vulnerability before harmful events occur. This approach is particularly important where long-standing territorial imbalances increase the severity of hazard impacts.

The present study analyses preventive governance as a framework capable of linking risk mitigation with social justice. Particular attention is devoted to public spending and public contracts, since both influence the capacity of institutions to build resilient territories and protect vulnerable communities. The central argument is that prevention should be integrated into ordinary administrative action and should function as a tool of equitable territorial protection rather than as a purely technical response to foreseeable risks.

Citation: Siria Canciani. Preventive Governance of Natural Risks: Social Vulnerability and Legal Tools in Territorial Contexts. J Envi Sci Agri Res. 2026. 4(4): 1-3. DOI: doi.org/10.61440/JESAR.2026.v4.194

Review of Literature

Recent legal and policy debates have increasingly emphasized the transition from emergency law to risk law. This shift reflects the need to govern disasters not only through exceptional interventions after the event, but also through ordinary preventive mechanisms capable of reducing vulnerability in advance. In this field, preventive governance emerges as a conceptual framework that connects planning, legality, public finance, and accountability [1].

Disaster law scholarship has also highlighted the importance of integrated governance structures in addressing both disaster risk and climate-related threats. Legal frameworks are considered effective when they coordinate institutions, clarify responsibilities, and support preventive action through stable procedural and financial instruments [2].

At the same time, social vulnerability studies have shown that exposure to natural hazards is strongly conditioned by structural inequalities. Communities characterized by socio-economic fragility, inadequate infrastructure, and weak institutional support are more likely to suffer disproportionate losses and slower recovery. This literature suggests that risk prevention policies must incorporate distributive and territorial justice concerns, rather than relying exclusively on hazard-based indicators.

Within this evolving debate, public procurement and public spending deserve greater attention. They are not neutral administrative techniques; instead, they influence the real capacity of public authorities to transform legal duties of prevention into material interventions that improve resilience over time.

Materials and Methods

This article adopts a qualitative and interdisciplinary research design. The analysis combines doctrinal legal reasoning with a socio-institutional perspective on vulnerability and territorial resilience. The study is based on three main methodological steps.

First, it examines preventive governance as a legal category through the lens of administrative law, focusing on the transition from emergency-based intervention to ex ante risk management. Second, it interprets social vulnerability as a criterion for understanding the unequal distribution of disaster impacts across territories. Third, it evaluates the function of public spending and contractual instruments in supporting preventive policies and embedding resilience objectives into ordinary public action.

The study is conceptual and interpretive in nature. It does not rely on statistical sampling or experimental procedures, but on analytical examination of legal categories, policy rationales, and governance mechanisms. The purpose is to develop an integrated framework for understanding how law and public administration can contribute to disaster prevention in socially vulnerable territorial contexts.

Results

The analysis produces four main findings.

First, natural hazards act as amplifiers of territorial inequality. Their impacts are significantly conditioned by pre-existing social vulnerability, which affects exposure, preparedness, response capacity, and recovery.

Second, preventive governance should be understood as a broader legal and institutional model rather than as a narrowly technical strategy. When incorporated into ordinary administrative action, prevention becomes a means of correcting structural imbalances among territories and protecting communities before harm materializes.

Third, public spending plays a decisive role in risk mitigation. Vulnerability-based allocation of resources allows public authorities to direct investments where their marginal social return is highest, thereby reducing both human exposure and the long-term fiscal burden associated with emergency response.

Fourth, public contracts represent a strategic operational tool. Procurement choices concerning award criteria, performance obligations, sustainability standards, and life-cycle costing directly affect whether public investment generates durable resilience or only short-term compliance.

Discussion

The findings support a reinterpretation of prevention as a form of anticipatory justice. If risk is socially distributed, then legal and administrative responses cannot remain indifferent to territorial inequalities. Prevention-oriented governance makes it possible to intervene before structural fragility is translated into irreversible damage.

This perspective also reshapes the role of administrative law. Traditional emergency-centered approaches often rely on exceptional powers, derogations, and compressed procedures. Although such tools may be necessary during acute crises, their repeated use can weaken transparency, planning capacity, and accountability. By contrast, ex ante governance strengthens the ordinary functions of public administration, such as planning, budgeting, infrastructure maintenance, and procurement.

The role of procurement is especially relevant. Contractual design determines whether resilience objectives are materially embedded in public intervention. Award criteria based exclusively on the lowest price may undermine long-term durability, while life-cycle costing and outcome-oriented clauses encourage more sustainable and preventive investment strategies. In this way, contracts become legal instruments through which risk reduction is integrated into development policy.

Finally, the study confirms that preventive spending should not be regarded merely as an expenditure item. It is better interpreted as a social investment capable of reducing future losses, limiting opaque emergency spending, and reinforcing the traceability of public action. Prevention therefore contributes simultaneously to safety, equity, and institutional responsibility.

Limitations, Conclusions, and Recommendations

This study has some limitations. It is primarily theoretical and interpretive, and it does not include empirical case studies or comparative quantitative data. Future research could test the proposed framework through case-based analysis of procurement practices, territorial prevention plans, or administrative responses in specific risk-prone areas.

Despite these limitations, the article concludes that preventive governance offers an effective framework for linking legal responsibility, social vulnerability, and territorial resilience. Prevention is not only a technical anticipation of hazard, but also a redistributive and justice-oriented mode of public action. When supported by vulnerability-sensitive resource allocation and legally robust contractual tools, preventive governance can reduce emergency dependence and promote more equitable protection for exposed communities.

On this basis, three recommendations can be proposed. First, public authorities should integrate social vulnerability indicators into risk planning and budget allocation. Second, procurement rules should explicitly incorporate resilience objectives through life-cycle costing, sustainability requirements, and performance-based clauses. Third, disaster governance should progressively move from exceptional emergency logic toward stable, preventive, and accountable administrative frameworks.

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