

# Policy Justice for Natural Resource Management: Advancing Women's Participation in Public Administration

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## Abstract

This study examines the intersection of gender justice and natural resource management (NRM) policy, arguing that meaningful women's participation in policy development and implementation is a fundamental requirement for equitable and sustainable public administration. Through a critical analysis of existing policy frameworks and empirical evidence from Southeast Asian contexts, this study demonstrates that exclusionary governance structures perpetuate unequal access to resources, decision-making authority, and benefit-sharing arrangements. This paper proposes an integrated framework of "gendered administrative justice" that repositions women not merely as beneficiaries but as essential agents in shaping natural resource governance. We contend that justice in NRM policy necessitates structural transformations in institutional participation mechanisms, epistemic recognition of women's ecological knowledge, and redistributive mechanisms that acknowledge women's differential vulnerability to the degradation of resources. This framework offers both theoretical advancement and practical pathways for public administrators and policymakers seeking to operationalize gender-responsive governance in resource management.

**Keywords:** *Gender Justice, Natural Resource Management, Public Policy, Women's Participation, Administrative Justice*

## 1. Introduction

Natural resource management is one of the most consequential domains of contemporary public policy. The decisions made by governments, often through opaque administrative processes, determine who accesses water, land, and forests, who benefits from resource extraction, and who bears the costs of environmental degradation. However, the gendered dimensions of these distributional outcomes remain a persistent blind spot in policy discourse. Women, who constitute a significant proportion of resource-dependent populations across the Global South, remain systematically marginalized from the policy processes that structure their material conditions and ecological relationships.

This marginalization operates through multiple mechanisms. Some are explicitly legal, such as constitutional provisions and administrative codes that historically excluded women from land ownership, resource rights, and decision-making forums. Others are more subtle, embedded in epistemic hierarchies that privilege certain forms of knowledge while rendering women's experiential expertise in subsistence agriculture, water management, and forest conservation invisible. Others reflect structural inequalities in time, mobility, and political capital that make policy participation costly and risky for women, particularly those in subordinate social positions.

The case for women's participation in natural resource management has been extensively documented in development literature, environmental justice scholarship, and empirical research, demonstrating positive correlations between women's involvement and improved conservation outcomes, more equitable benefit distribution, and enhanced policy legitimacy. However, the deeper normative case—that women's exclusion from natural resource policy represents an injustice requiring redress as a matter of democratic principle and equitable governance—remains underdeveloped in public administration theory.

This paper advances a concept we term "gendered administrative justice" to address this lacuna. We argue that justice in natural resource policy requires not merely adding women to existing governance structures, but fundamentally reconceiving what fairness means in resource governance through three interconnected dimensions: participatory justice (equal voice in decision-making), recognition justice (validation of women's knowledge, interests, and rights as legitimate subjects of policy), and

redistributive justice (ensuring women access proportionate benefits and are protected from disproportionate harms).

The remainder of this paper is organized as follows. Section Two examines the theoretical foundations linking gender, justice, and public administration. Section Three traces how contemporary natural resource management frameworks inadvertently embed gender-blind assumptions with unjust consequences for women. Section Four develops a gendered administrative justice framework with a specific application to NRM contexts. Section Five offers concrete policy mechanisms through which the framework can be operationalized. The conclusion reflects the implications for public administration theory and practice.

## **2. Theoretical Foundations: Gender, Justice, and Public Administration**

### ***2.1 The Gap in Public Administration Theory***

Public administration as a discipline emerged primarily through the study of governmental practices in industrialized democracies, where professionalization and bureaucratic rationality were imagined as neutral processes untainted by particularistic interests. This orientation has led to significant advances in organizational efficiency and rule-of-law protections. However, this came at the cost of rendering invisible how administrative processes distribute benefits and burdens along the lines of gender, class, race, and other social hierarchies.

Contemporary public administration scholarship, particularly following the "new public management" wave, has increasingly acknowledged that administrative decisions are neither neutral nor purely technical. They involve value choices with profound distributional effects. However, engagement with gender remains peripheral, often relegated to human resource management or treated as a separate policy domain rather than understood as a fundamental dimension of administrative justice itself. This theoretical blind spot is especially consequential in natural resource governance, where administrative decisions about access rights, resource allocation, and environmental protection directly structure material survival for dependent populations. The failure to theorize the gender dimensions of these decisions means that injustices are often rendered invisible, naturalized, or attributed to pre-political realms beyond administrative responsibility.

### ***2.2 Justice Frameworks and Their Application to NRM***

Contemporary justice theory, particularly following Nancy Fraser's influential work, identifies three dimensions through which justice can be conceptualized: distribution (fair allocation of resources and benefits), recognition (respect for the dignity and worth of all persons and their group identities), and representation (genuine voice in the processes that affect one's life). This tripartite framework is exceptionally illuminating when applied to natural resource governance. In distribution, justice requires that women receive proportionate shares of resource benefits and are not disproportionately burdened by resource scarcity or the effects of environmental degradation. Research demonstrates that women's work in subsistence agriculture, water collection, and fuel gathering means they experience resource scarcity with unique severity. Climate change-driven water stress, for instance, extends women's unpaid labor time while simultaneously threatening livelihood security. Distributive justice requires NRM policies to acknowledge and actively counterbalance these differential vulnerabilities.

Recognition justice operates at the epistemic level. It requires that women's knowledge—accumulated through generations of engagement with particular ecosystems—is validated as legitimate expertise rather than dismissed as "traditional" or "informal." It requires that women's interests in resource sustainability be recognized as substantive policy concerns rather than externalities. Environmental decisions affecting women's lives must recognize women as rights-bearing subjects whose consent matters, rather than as passive populations to be managed. Representational justice demands that women have a genuine voice in policy formation and implementation. This extends beyond token inclusion or consultation mechanisms, which lack decision-making authority. It requires the structural transformation of governance institutions to enable women's meaningful participation, including addressing practical constraints (time, mobility, education access), institutional barriers (exclusionary

leadership structures, masculinized political cultures), and substantive barriers (ensuring women's input actually shapes policy rather than legitimating predetermined decisions).

### ***2.3 Intersectionality and Differentiated Justice***

A crucial theoretical advancement emerges from intersectionality scholarship, which demonstrates that women's experiences of injustice in natural resource governance cannot be understood as a unified phenomenon. Rural, indigenous, poor women, and women from marginalized ethnic groups experience qualitatively different forms of exclusion and vulnerability. Urban women with professional credentials face different barriers to policy participation than illiterate peasant women, whose land rights depend on customary arrangements recognized neither by state law nor by market institutions. This insight demands that gendered administrative justice not be conceptualized as a single category of inclusion, but as attentiveness to how overlapping forms of marginalization structure differential access to resources, knowledge, recognition, and political voice. It requires a disaggregated analysis of whose voices are sought, whose knowledge is validated, who benefits from resource access agreements, and who remains excluded even after gender-focused reforms.

## **3. The Problem: Gender-Blind NRM Policy and Its Injustices**

### ***3.1 Historical Patterns of Exclusion***

Natural resource management policies have deep historical roots in exclusionary practices. Colonial forestry regimes, transplanted into postcolonial states, typically involved taking control of forests away from local communities and centralizing them under state administrations dominated by male technocrats. Women's historical roles in forest management—as gatherers of non-timber forest products, managers of community forestry systems, and repositories of ecological knowledge—were rendered invisible during this transition.

Land titling programs, introduced across the Global South as mechanisms for improving productivity and enabling credit access, systematically excluded or subordinated women's land claims. Titling typically recognizes the (male) household head as the primary rights-holder, reinforcing patriarchal family structures while appearing neutral and technocratic. Decades of research have demonstrated that joint titling and explicit women's land rights correlate with improved agricultural productivity, reduced household food insecurity, and diminished domestic violence; however, titling programs continue to predominantly individualize men's names.

Water management policies similarly embed gender-blind assumptions. Large dam projects, irrigation schemes, and groundwater extraction regimes were designed without analyzing differential water-use patterns, completely overlooking that women typically bear primary responsibility for household water provision in water-scarce regions. This blindness meant that policies that improved irrigation for commercial agriculture sometimes simultaneously exacerbated women's water collection burdens through the depletion of groundwater and surface water sources used for subsistence purposes.

### ***3.2 The Consequences of Epistemically Unjust NRM Policy***

Miranda Fricker's concept of epistemic injustice—whereby certain groups are systematically excluded from being recognized as knowledge producers—offers crucial insight into how gender-blind NRM policy perpetuates injustice beyond simple exclusion from decision-making. When women's ecological knowledge is dismissed as "traditional" or "anecdotal" rather than recognized as legitimate expertise, policy decisions lose access to crucial information while simultaneously harming women through failure to validate their understanding of local conditions.

Throughout Southeast Asia and South Asia, Indigenous and local women have maintained detailed knowledge of medicinal plants, sustainable harvesting practices, seasonal water patterns, and soil conservation techniques. This knowledge, accumulated across generations and refined through continuous engagement with specific ecosystems, represents invaluable information for designing effective and locally appropriate conservation strategies. However, national resource management agencies, staffed by male agronomists and engineers trained in international best practices, frequently override local women's recommendations in favor of standardized technical solutions designed

elsewhere, with predictable failures that harm both ecosystems and communities. Simultaneously, epistemic injustice operates through what Boaventura de Sousa Santos terms "cognitive justice"—the failure to recognize different ways of knowing as legitimate. When participatory resource management programs include women, they often expect women to communicate in styles, languages, and conceptual frameworks unfamiliar to them, and then dismiss their contributions as inarticulate or uninformed when women cannot express themselves in the masculine-coded registers of technical bureaucracy.

### ***3.3 Participatory Deficits and Democratic Injustice***

Beyond epistemic dimensions, gender-blind NRM policies violate fundamental democratic principles. When women are systematically excluded from decisions affecting their access to resources and environmental conditions, policies lack the democratic legitimacy that depends on the informed consent of those affected. This violation becomes especially acute in contexts where resource decisions determine subsistence and survival.

Research on community forestry programs in Nepal, participatory irrigation management in India, and marine co-management arrangements in the Philippines demonstrates that women consistently report being excluded from or marginalized within ostensibly participatory governance mechanisms in these countries. When women attend meetings, they are often silent, uncertain whether their opinions will be respected or whether their participation might bring social sanction. When women speak, their contributions are frequently interrupted, minimized, or attributed to the men accompanying them.

These dynamics reflect not individual prejudice but the structural features of governance arrangements designed without attention to gender dynamics. Meeting times, locations, and venues are selected without considering that women may have constrained mobility or concentrated childcare and household responsibilities. Decision-making processes rely on aggressive verbal competition, a style many women find uncomfortable and which may contradict the cultural norms for feminine behavior. Leadership positions are informally reserved for men, with women's participation confined to implementation roles. Technical language, debt knowledge, and familiarity with bureaucratic procedures—unequally distributed across genders—become gatekeeping mechanisms that advantage already privileged men.

## **4. Toward Gendered Administrative Justice in NRM**

### ***4.1 Reconceiving the Problem***

Moving toward gender justice in natural resource management policy requires first reconceiving the problem. Conventional framing—women are underrepresented in natural resource management; we should increase their numbers—misses the deeper structural issues. Women's exclusion is not incidental to NRM policy; it is produced through the very mechanisms designed to make policy "technical," "objective," and "professional."

A gendered administrative justice framework reconceives the problem as follows: natural resource management policy structures who gets what resources, whose knowledge counts, and whose consent matters. It does so through institutional arrangements, decision-making procedures, and knowledge validation mechanisms that were designed without considering gender dynamics and consequently embedding masculine perspectives as if they were neutral and universal. These arrangements produce injustices along multiple dimensions simultaneously—depriving women of resources to which they are entitled, delegitimizing women's knowledge, and denying women's right to meaningful participation in decisions affecting their lives. Addressing this injustice requires not merely including women in existing structures but also transforming those structures.

### ***4.2 The Three Pillars of Gendered Administrative Justice***

Gendered administrative justice in natural resource management policy rests on three interconnected pillars.

#### **Pillar One: Participatory Justice and Structural Transformation**

Genuine participatory justice requires moving beyond consultation models, where women's voices are sought but carry no decision-making weight. It requires structural transformation through which women have meaningful power in NRM governance institutions at all levels, from community resource committees to national environmental ministries.

This demands concrete mechanisms: reserved leadership positions for women; decision-making quotas ensuring women comprise at least 40-50% of voting members in resource management bodies; scheduling of meetings at times enabling women's participation; provision of childcare and transportation support; training on technical and procedural knowledge required for effective participation; and crucially, changes to decision-making procedures themselves that value collaborative problem-solving over aggressive competition.

Structural transformation also requires addressing the underlying inequalities that constrain women's participation. Land titling reform that recognizes joint or female ownership directly expands women's material interests in land governance and their standing to participate. Educational initiatives targeting girls and women improve their capacity to engage with technical resource management questions. Shifts in the distribution of unpaid labor—through public investment in water and fuel provision, which reduces women's collection time, or through norm changes that encourage men's participation in household tasks—expand women's temporal capacity for political engagement.

### **Pillar Two: Recognition Justice and Epistemic Transformation**

Recognition justice requires validating women's ecological knowledge as legitimate expertise rather than as an exotic tradition or anecdotal observation. It requires institutional mechanisms through which women's knowledge shapes actual policy rather than remaining a consultative veneer. This pillar demands an epistemic transformation of resource management institutions. Women scientists and technical experts must be recruited and promoted to positions of genuine authority in environmental agencies. Women's local knowledge must be systematically documented, validated through rigorous studies, and integrated into official policy frameworks alongside internationally trained technical expertise. Training for male-dominated environmental agencies must include modules on the gender dimensions of resource management, epistemic justice, and how to engage respectfully with knowledge produced by marginalized communities.

Equally important, recognition justice requires validating women's interests as legitimate subjects of policy concern. Women's interest in water for household consumption is as legitimate a policy concern as agricultural productivity. Women's interest in sustainable fuel provision merits equal attention to that of commercial timber extraction. Women's concerns about the impact of pesticides on health must carry equal weight to male farmers' concerns about productivity. This requires redefining what counts as a resource management issue and expanding the policy scope beyond the traditionally masculine-coded concerns of commercial production to include subsistence provisioning and ecosystem health, understood through women's relational perspective.

### **Pillar Three: Redistributive Justice and Benefit-Sharing Equity**

Redistributive justice requires that NRM policy explicitly analyzes differential resource vulnerability across gender lines and actively ensures equitable benefit distribution. This means moving beyond gender-blind benefit-sharing formulas that appear neutral but produce unequal outcomes, given unequal starting positions. This requires gender-disaggregated baseline studies documenting who currently accesses which resources, who bears the costs of resource scarcity, and how resource management decisions differentially affect women and men. Using this analysis, resource management agreements should include explicit provisions for women's resource access. Community forestry agreements should guarantee women's right to harvest forest products for household and market uses. Water allocation agreements should reserve proportionate amounts of water for household consumption before prioritizing commercial irrigation. Payment for ecosystem service programs should ensure that women receive direct payments, not payments filtered through male household heads.

Redistributive justice also requires recognizing that women's unpaid labor in resource management—maintaining community nurseries, monitoring forests, and managing water systems—must be valued and compensated. Women who serve on community resource committees typically receive no financial compensation, whereas male participants may be paid. Correcting this injustice is not merely fair; it addresses the core barrier to sustained women's participation.

#### ***4.3 Integration and Complementarity***

These three pillars must be understood as integrated and complementary, rather than separable. Participatory justice without recognition justice produces hollow inclusion—women are present but silenced, and their input is dismissed. Recognition justice without participatory justice means that women's knowledge is acknowledged, but women have no power to ensure that it shapes decisions. Redistributive justice without participatory justice means that resources are allocated to women without their voice in determining how this occurs, potentially reinforcing paternalism.

Equally, none of these pillars can be achieved without addressing the underlying gender inequality in property rights, education, time allocation, and political culture. Gender-specific NRM policies divorced from broader gender justice initiatives are unstable and limited. Consequently, gendered administrative justice in NRM represents a point of entry for broader gender equality initiatives, while broader gender reforms are prerequisites for stable gender resource governance.

### **5. Operationalizing Gendered Administrative Justice: Policy Mechanisms and Implementation**

#### ***5.1 Institutional Arrangements and Governance Structures Community Resource Management Committees***

should be reconstituted with explicit gender provisions. Rather than emerging organically (which typically produces male-dominated leadership), committees should be formally established with reserved seats for women, preferably including reserved leadership positions (chair or co-chair). The committee size and composition should ensure women's proportionate representation across different community segments—for instance, ensuring representation of young women, married women, widows, and women from marginalized groups, recognizing that the category "women" itself contains important differences.

Multi-level Governance Arrangements must include women at all scales. If decisions about watershed management occur at the district level, women must participate in district-level committees. If provincial policies affect local resource access, women must participate in provincial deliberations. This requires addressing mobility constraints through transportation support and scheduling that accommodates women's obligations. Gender Focal Points within environmental ministries and agencies should be institutionalized with secure funding, professional staff, and genuine authority to influence policy rather than marginal status as add-ons. These units should conduct gender analyses of all proposed resource management policies, identify gender impacts before implementation, and recommend necessary modifications.

#### ***5.2 Policy Analysis and Design Processes***

Mandatory gender impact assessments should become standard practice in all natural resource policy developments. Before approving forest management plans, water allocation schemes, or land policies, governments should systematically analyze how these policies differentially affect women and men. This analysis should examine not only the direct impacts on resource access but also the indirect impacts on unpaid labor time, household food security, health, and time available for political participation. Participatory Policy Design should involve women throughout the policy development process, not merely in the consultation phases after core decisions are made. This requires building women's capacity to participate in technical policy discussions and restructuring policy development processes to enable different knowledge forms and communication styles.

Rights-Based Framing should replace benevolence-based framing in NRM policy. Rather than conceptualizing women's access to resources as a benefit graciously provided by the government, policies should be framed to recognize and protect women's rights. Land should be titled jointly or in

women's names because women have property rights, not because this might improve productivity. Water should be allocated for household consumption because women and children have a right to water security, not because it serves development goals. This reframing has both practical and psychological importance: rights cannot be withdrawn as easily as benefits, and rights-based framing supports women's dignity and status.

### ***5.3 Knowledge Integration and Technical Capacity***

**Community-Based Monitoring Systems** should be established through which women can systematically document ecological conditions, resource availability, and environmental changes observed in their daily engagement with ecosystems. This information should be collected using methods accessible to women without formal education, systematically compiled, and integrated into official monitoring and assessment processes. Women should receive payment for this monitoring work, recognizing it as the valuable labor that it represents.

**Women's Technical Expertise Development** should be pursued through multiple pathways. The recruitment of women into environmental science and natural resource management education should be actively promoted through scholarships and mentoring. Within resource management institutions, women should be supported to develop technical credentials and be promoted to positions of authority. Simultaneously, women with experiential expertise should be formally recognized as technical experts, not merely as consultants, and should be given decision-making authority.

**Cross-Knowledge Learning Spaces** should be created where women with local ecological knowledge engage with scientists and technical experts on equal footing, with genuine efforts to integrate different knowledge forms. This requires humility from technically trained professionals regarding the limitations of their knowledge and genuine openness to learning from community-based experts.

### **5.4 Accountability Mechanisms and Performance Monitoring**

**Gender-Disaggregated Performance Indicators** should replace gender-blind measures of NRM policy success. Rather than measuring only forest cover, water availability, or crop yields, indicators should track whether women's resource access improved, whether women's participation in decision-making increased, whether women's knowledge was integrated into policy, and whether unequal resource distribution was reduced.

**Public Reporting and Transparency** regarding women's participation and representation in resource management governance should be mandated. Resource management agencies should publish annual reports disaggregating all governance participation by gender and documenting the changes over time. This transparency creates incentives for improvement and enables citizens to monitor whether agencies meet their stated commitments.

**Grievance Mechanisms** specifically designed to address gender-based exclusion from resource governance should be established. Women who experience discrimination in accessing decision-making forums or whose knowledge is dismissed should have formal channels through which to raise complaints, with mechanisms for investigation and remedy.

## **6. Implications for Public Administration Theory and Practice**

### **6.1 Theoretical Contributions**

This analysis contributes to the public administration theory in several ways. First, it repositions gender from a peripheral concern within human resources to the central dimension of administrative justice. Equity in resource governance—who gets what and why—necessarily involves gender analysis because resource distribution systems systematically intersect with gender hierarchies.

Second, the concept of gendered administrative justice integrates insights from feminist philosophy, environmental justice, and democratic theory into public administration frameworks. This integration demonstrates that justice in governance requires simultaneously attending to distribution, recognition, and participation; that it requires structural transformation rather than merely including marginalized groups in unchanged structures; and that it requires understanding how administrative procedures, seemingly neutral and technical, embed particular power relationships with distributive consequences. Third, this analysis highlights how technical rationality—the dominant mode through which public administration has understood its legitimacy—obscures, rather than reveals, the value choices embedded in administrative decisions. When water policies are justified through technical hydrological analysis, the gender value choices embedded in determining whose water needs count are rendered

invisible by the analysis. Acknowledging the inescapably value-laden nature of resource governance opens up space for engaging more transparently with distributional questions and justice concerns.

### **6.2 Practical Implications for Environmental Administrators**

For environmental ministries and resource management agencies, this framework offers concrete guidance on reform. Beginning with a gender analysis of existing policies and institutions reveals where change is needed. Systematically building women's participation in governance institutions, validating women's knowledge, and ensuring that women benefit equitably from resource access represent a path toward more legitimate and effective governance.

Administrators may worry that prioritizing gender justice complicates already complex resource-management challenges. However, the evidence suggests otherwise. Women's participation typically improves decision-making quality by bringing diverse perspectives and knowledge. Women's commitment to resource sustainability often exceeds men's, particularly when they have secure access rights. Women's local knowledge frequently enables resource management solutions that are better adapted to local conditions than externally designed technical interventions. Moreover, gendered administrative justice addresses the core legitimacy challenge of environmental governance. Resource management decisions made without the genuine participation of those affected lack democratic legitimacy and face resistance. Including women—recognizing their knowledge, respecting their interests, and ensuring they benefit—builds legitimacy and effectiveness.

### **Conclusion**

The exclusion of women from natural resource management policy represents not merely an equity concern but an injustice requiring urgent redress as a matter of democratic principles and good governance. The systematic marginalization of women from decisions affecting their resource access and environmental conditions violates the fundamental norms of fair process, knowledge recognition, and distributive fairness that ground legitimate governance.

Advancing gendered administrative justice in natural resource management requires the transformation of governance institutions, policy processes, and knowledge validation mechanisms. It requires recognizing women not merely as beneficiaries of resource programs but as essential agents in shaping the governance of resources. This requires validating women's ecological knowledge as legitimate expertise and ensuring that women have genuine decision-making power in resource management. It requires equitable distribution of resource benefits while protecting women from disproportionate burdens when resources become scarce.

This transformation requires sustained commitment from multiple actors. Environmental administrators must embed gender analyses into all policy development and implementation processes. Women's organizations and advocates must remain vigilant in demanding institutional accountability. Researchers must continue to document injustices and evaluate the effectiveness of reforms. International development institutions and bilateral donors must use their influence to support gender-transformative governance.

The stakes are high. As climate change intensifies resource scarcity and competition, the governance arrangements we establish now will determine who survives scarcity and who faces a catastrophe. Ensuring that these arrangements embody justice—that women's knowledge is valued, women's interests are centered, and women benefit equitably—is both a moral imperative and a practical necessity for building environmental governance systems that are legitimate, effective, and sustainable. In this crucial moment, advancing gendered administrative justice in natural resource management is not a luxury but an urgent requirement for creating just and sustainable futures.

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