



Research Article

Where Commitment Dissipates: An Attenuation Cascade Theory of Gender in Climate Resilience Policy

Kazy Mohammad Iqbal Hossain 

Centre for Higher Studies and Research (CHSR), Bangladesh University of Professionals (BUP), Mirpur Cantonment, Dhaka-1216, Bangladesh.

***Correspondence**Kazy Mohammad Iqbal Hossain
Email: iqbalwrdbuet@gmail.com**Article History**Received: August 11, 2026
Accepted: September 27, 2026
Published: October 14, 2026**Citation**Hossain, K. M. I. (2026). Where Commitment Dissipates: An Attenuation Cascade Theory of Gender in Climate Resilience Policy. *International Social Research Nexus (ISRN)*, 2(3), 1-16.
<https://doi.org/10.63539/isrn.2026024>**Copyright**© 2026 The Author(s). Published by Scholar Cave. This is an open access article distributed under the terms of the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Abstract

Climate policy increasingly recognises that unequal social relations shape climate risk, yet this recognition has not consistently changed budgets, eligibility rules, or outcomes. This article examines where near-universal gender commitments weaken and what determines the scale of that loss. Using theory-building thematic synthesis, it integrates feminist political ecology, intersectionality, social vulnerability theory, the capabilities approach, and transformative resilience with research on policy evaporation and gradual institutional change. It develops attenuation cascade theory, which proposes that gender commitments carry integration depth through six institutional conversions: framing, mandate, budget, eligibility, distribution, and outcome. Transmission is multiplicative, making realised depth dependent on the weakest conversion rather than the initial strength of commitment. Five propositions address the ordering of integration across analytical domains, concentration of loss at two critical conversions, distributive selectivity of formally neutral rules, differential survivability of policy instruments, and the role of independent verification in detecting attenuation. Evidence shows that gender is referenced in 95.0 per cent of national adaptation plans and by 81.5 per cent of Parties in their latest nationally determined contributions, yet fewer than one third of assessed contributions provide comprehensive treatment. Only 0.04 to about 3 per cent of climate-related development finance identifies gender equality as a principal objective. Application of a five-domain rubric to five policy systems produces the predicted ordering, although cross-case concordance is weak. The article identifies stage-specific instruments and conditions under which the theory would fail.

Keywords

Gender-Transformative Adaptation, Climate Resilience Policy, Policy Evaporation, Intersectionality, Climate Finance, Accountability.

1. Introduction

1.1. Saturated Commitment, Empty Conversion

Gender inequality is not a social theme appended to climate risk. It belongs to the causal process through which that risk is produced, because the institutions governing land, water, energy, labour, credit, and public services distribute exposure, sensitivity, and adaptive capacity along gendered lines (Rocheleau et al., 1996; Cutter et al., 2003; Sultana, 2014; IPCC, 2022). Formal acceptance of this claim is now near universal. As of July 2024, 85.2 per cent of Parties referenced gender across their reports and communications under the United Nations Framework Convention on Climate Change, including 81.5 per cent of Parties in their latest nationally determined contributions (NDCs), with gender referenced in 95.0 per cent of national adaptation plans and 93.8 per cent of national communications (UNFCCC, 2024). The Belém Gender Action Plan, adopted at COP30 in November 2025 under Decision 7/CP.30, establishes a nine-year framework

for 2026 to 2034 comprising 27 activities and 98 deliverables, and for the first time treats unpaid care work, women's health, violence against women and girls, and women environmental defenders as climate policy concerns rather than adjacent social issues (UNFCCC, 2025). By standard measures of policy spread, gender mainstreaming in climate governance has succeeded.

The financial evidence differs, although the size of the gap depends on how the denominator is drawn. The most widely cited figure holds that 0.04 per cent of climate-focused official development assistance (ODA) had gender equality as a principal objective in 2019 (Byrd & Bagnera, 2022), while analyses applying the Development Assistance Committee (DAC) gender marker to climate-related development finance report shares nearer 2 to 3 per cent (OECD, 2022, 2024; UN Women, 2024). These figures are not interchangeable, and Section 5.2 treats the divergence rather than adopting the most striking number; even the upper estimate sits more than an order of magnitude below the declaratory rates. Programme evidence points the same way: 17 per cent of NDCs supported through the UNDP Climate Promise highlighted women's access to finance and 18 per cent referenced gender within a climate finance strategy (UNDP, 2022). Applying a 50-indicator instrument across six dimensions to third-iteration NDCs, UN Women found that most countries acknowledge gendered climate risk while fewer than one third address it comprehensively (Tabbush & Howell, 2025; UN Women, 2025, 2026). The distance between near-universal reference and low single-digit fiscal shares is too large to be a definitional artefact alone. It is the phenomenon this article sets out to explain.

1.2. What the Literature has and has Not Established

Reviews across regions and instruments describe a consistent commitment-implementation gap: gender appears in preambles rather than sector targets, in consultation rather than authority, and in beneficiary counts rather than asset transfers (Lau et al., 2021; Prakash et al., 2024, 2025). Gender mainstreaming scholarship names the phenomenon more precisely, describing gender policy as evaporating inside development bureaucracies and showing how mainstreaming instruments are emptied and narrowed as they move from organisational statement to operational practice (Longwe, 1997; Verloo, 2005; van Eerdewijk, 2014; Milward et al., 2015).

Three limitations remain. Evaporation is a metaphor about organisational culture rather than a model with located conversion points, so it cannot identify which link in a chain is binding. Judgements of depth are expressed through broad labels (tokenistic, shallow, transformative) without stated criteria, so they can be neither compared nor contested. And the literature has not adequately theorised how formally gender-neutral administrative rules generate gendered allocation. Without that mechanism, the standard recommendation to strengthen political will is neither testable nor operational.

1.3. Contribution

This article makes three contributions. Theoretically, it develops attenuation cascade theory, converting evaporation from a metaphor into a six-stage transmission model with defined constructs, stated scope conditions, an explicit transmission logic, and five propositions that can fail. Analytically, it specifies a five-domain depth rubric with observable anchors, so assessments of integration depth become repeatable and contestable. Empirically, it assembles evidence from UNFCCC reporting, UNDP, the Climate Policy Initiative, the OECD, and the UN Women Gender Equality and Climate Policy Scorecard alongside a structured assessment of five policy systems, and finds that two evidence bases are consistent with the same ordering: integration is deepest where it is least costly and shallowest where it would require reallocation.

2. Theoretical Foundations

2.1. Five Traditions, and What Each Supplies

Gender enters climate policy as a demographic variable, vulnerability category, participation target, co-benefit, or question of rights and power. Policies also constitute the problems they claim to solve. A policy that counts female beneficiaries has already represented the problem as one of reach rather than control (Bacchi, 2009). Five theoretical traditions provide distinct analytical roles and supply the five depth domains in Table 3. Table 1 presents these traditions alongside the transmission literature discussed in Section 2.2, which supplies the dynamics of attenuation rather than a separate domain.

Feminist political ecology begins with the governance of resources. Climate impacts reach everyday life through access to land, water, forests, energy, labour, and public services. Property rules, household bargaining, markets, and customary institutions govern this access and rarely distribute it neutrally (Rocheleau et al., 1996; Agarwal, 2009). Women hold

fewer than 15 per cent of agricultural landholdings globally (Tabbush & Howell, 2025). Yet adaptation options depend more on the security of tenure rights than on gender alone (Han et al., 2019; Murken & Gornott, 2022). This tradition avoids treating women as natural conservation agents or vulnerability as an individual deficit (Arora-Jonsson, 2011; Lau et al., 2021). Intersectionality further rejects the treatment of women as a uniform group (Crenshaw, 1991; Djoudi et al., 2016). Universal programmes may therefore favour applicants who already possess identification, collateral, time, and the ability to meet administrative requirements.

Social vulnerability theory explains why the same hazard produces different outcomes and why coping differs from adaptation (Cutter et al., 2003). Households may survive shocks by reducing meals, withdrawing girls from school, selling assets, or increasing unpaid labour. Income recovery may record these responses as resilience even when they shift costs to women and girls and weaken future adaptive capacity (Schipper, 2020; Eriksen et al., 2021). Disaster mortality research found that disasters reduce female life expectancy more than male life expectancy, but the effect depends on women's everyday socioeconomic status (Neumayer & Plümper, 2007). Gendered impacts therefore arise from social position rather than from gender as a fixed attribute. Panel evidence also indicates that the relationship between gender inequality and climate vulnerability operates in both directions (Andrijevic et al., 2020; Eastin, 2018).

The capabilities approach moves assessment from resources delivered to freedoms gained (Sen, 1999; Nussbaum, 2011). Kabeer's (1999) distinction among resources, agency, and achievements explains why delivery alone provides a weak measure of empowerment. Evidence from 25 case studies in climate hotspots also shows that environmental stress can weaken women's agency even where household arrangements and legal entitlements appear supportive (Rao et al., 2019; Bryan et al., 2024). Climate-related health effects can further restrict women's substantive choices and adaptive capacity (Limaye, 2023).

Transformative resilience distinguishes recovery to an unequal starting point from changes in the structures producing risk (Pelling, 2011). The recognition, redistribution, and representation framework derives from Fraser (1995), while critical climate justice extends it towards accountability across institutional scales (Sultana, 2022). Representation still requires caution. Women's presence in political institutions is associated with stronger environmental policy in some settings, but its effect depends on institutional authority, electoral systems, and economic conditions (Hathaway, 2025).

Table 1. Theoretical Foundations of Attenuation Cascade Theory

Tradition	Analytical contribution	Proposition for policy analysis	Observable test
Feminist political ecology	Resource control and unpaid labour are governed by gendered power	Vulnerability is produced by institutions governing access to land, water, energy and labour, not by proximity to nature	Does the policy alter ownership or use rights, and redistribute rather than add to unpaid environmental labour?
Intersectionality	Gendered effects differ across class, caste, ethnicity, age, disability and place	Uniform targeting advantages women who already meet administrative requirements	Are targeting rules audited for administrative exclusion, and are data disaggregated beyond sex?
Social vulnerability theory	Links social relations to exposure, sensitivity and adaptive capacity	Gender inequality belongs to the causal structure of climate risk, not to themes appended to it	Does assessment distinguish coping from adaptation and identify who absorbed the cost of recovery?
Capabilities approach	Shifts assessment from resources delivered to freedoms achieved	Equal delivery produces unequal benefit where mobility, time, literacy or income control differ	Does monitoring measure control over assets, time use, safety and decision influence rather than receipt?
Transformative resilience and climate justice	Separates recovery to an unequal baseline from change in risk-producing structures	Resilience is transformative only where rules and resource relations change	Does the policy move on all five depth domains together?
Policy evaporation and gradual institutional change (transmission)	Explains how commitments persist formally while their operative effect is redirected	Force is lost at conversion points where ambiguous instruction meets a specific allocation rule	Does each commitment carry a fiscal or legal code that survives a change of personnel or priority?

logic, not a depth domain)			
----------------------------	--	--	--

Note. The first five traditions supply the depth domains specified in Table 3; the sixth supplies the transmission logic formalised in Section 4 and is deliberately of a different kind. Sources: Rocheleau et al. (1996); Crenshaw (1991); Cutter et al. (2003); Sen (1999); Pelling (2011); Longwe (1997); Mahoney and Thelen (2010).

2.2. From Evaporation to Attenuation

The gender mainstreaming literature already has a vocabulary for this loss. Longwe (1997) described the development agency as a patriarchal cooking pot in which gender policies evaporate; van Eerdewijk (2014) showed that mainstreaming instruments become disconnected between organisational and operational levels; Verloo (2005) distinguished displacement from empowerment; and Milward et al. (2015) asked whether mainstreaming critiques had become dead ends. Applied to climate policy, the tradition anticipates what the NDC evidence shows (Terry, 2009; Holvoet & Inberg, 2014; Huyer et al., 2020; Dankelman & Naidu, 2020).

Three features restrict the metaphor's usefulness. It is diffuse, identifying no leverage point; attitudinal, locating cause in bureaucratic patriarchy rather than in allocation rules that would produce the same distribution under different attitudes; and binary, treating gender content as present or absent rather than progressively filtered.

Two further literatures supply what is missing. Theories of gradual institutional change show that formal rules persist while their practical effect is transformed through drift, conversion, and layering, as actors use ambiguity to redirect rules without amending them (Mahoney & Thelen, 2010). A gender commitment therefore does not need to be repealed to lose its effect; it needs only to reach a conversion point where an ambiguous instruction meets a specific allocation rule. Field research shows the same dynamic, with participatory processes reproducing rather than changing the relations driving vulnerability wherever decision authority is not devolved along with the process (Nagoda & Nightingale, 2017), while policy process theory has been slow to incorporate distributional questions (Heikkilä & Jones, 2022). Attenuation cascade theory retains the insight that gender content is lost inside institutions, rejects the assumption that loss is diffuse and attitudinal, and specifies where loss occurs, why, and how much occurs at each point.

3. Analytical Approach

3.1. Design and Evidence Rules

This is a theory-building article rather than a systematic review. The objective is not to estimate an effect size or establish the state of a literature, but to construct and expose to testing an explanatory account of a documented problem. The evidence base is selected purposively, following the logic of thematic synthesis: recurring patterns are identified across source types, organised into analytical themes that exceed any single source, and used to specify mechanisms the sources imply but do not state. Three evidence rules govern the synthesis.

First, sources are used according to the type of evidence they provide. Peer-reviewed empirical studies support claims about mechanisms. Institutional reporting supports claims about the existence and content of commitments and is treated as evidence of reported activity rather than achieved outcomes unless independently confirmed. Where independent assessment contradicts self-reporting, as in the Cichocka et al.'s (2024) analysis of donor gender screening, both are reported and the divergence is treated as a finding.

Second, quantitative indicators drawn from different reporting populations display the broad shape of attenuation across the policy chain, not the trajectory of a single cohort. The indicators in Figure 1. cover partly overlapping periods and different units of analysis, including shares of Parties, assessed NDCs, and expenditure volume. They are not strictly commensurable. The figure is therefore an ordinal profile rather than a measurement of a transmission ratio.

Third, depth is assessed against observable anchors rather than broad labels. Five policy systems (Bangladesh, Rwanda, Nepal, the Pacific small island developing states of Fiji and Vanuatu, and the European Union) are scored using the domains and four-level scale in Table 3. The cases were selected purposively to provide contrast across development status, region, governance scale, administrative structure, and policy instrument. Bangladesh and Nepal represent climate-vulnerable South Asian systems with different approaches to local adaptation; Rwanda provides a centralised system with gender representation and budgeting mechanisms; Fiji and Vanuatu combine customary governance with dependence on external climate finance; and the European Union represents a supranational regulatory system. Each is cited as a comparatively promising case, making the selection useful for examining whether attenuation remains visible where gender commitments would be expected to survive.

3.2. What the Case Coding Can and Cannot Establish

Coding was conducted by a single analyst, so no inter-rater statistic can be reported, and the boundary between levels 2 and 3 is the most uncertain judgement. Anchors were specified before scoring, ambiguity was resolved to the lower score, and the evidence behind each score is presented in Section 5.3 so that scores can be contested.

One limitation bears directly on how Section 5.3 should be read. The rubric's domains and the ordering asserted in *Proposition 1* derive from the same theoretical argument and were applied by the same analyst. The case coding cannot therefore constitute an independent test of that proposition, and it is not presented as one. Its function is to demonstrate that the rubric discriminates between systems rather than assigning uniform scores, to establish whether the predicted ordering is descriptively present, and to expose individual scores to challenge. A genuinely independent test requires coding by analysts blind to the propositions, specified in Section 7. Where a statistic is reported below, it is reported with its limitations, including where it fails to reach conventional significance.

4. Attenuation Cascade Theory

4.1. Constructs and Scope Conditions

The theory rests on four defined constructs. A *gender commitment* is a stated policy intention to alter the gendered distribution of climate risk, adaptive capacity, or the benefits of climate action. *Integration depth* is the extent to which a commitment, at a given institutional stage, changes rules, resources, or authority rather than language alone; it is ordinal, and the anchors in Table 3. make it observable. An *institutional conversion* is a transition at which a commitment must be re-expressed in a different institutional medium: from analytical text into assigned obligation, from obligation into a budget code, from budget code into an eligibility rule, from eligibility rule into a realised allocation, and from allocation into a measured change in capacity. *Attenuation* is the loss of integration depth across a conversion; for conversion k , the transmission ratio $\tau_k = D_k / D_{k-1}$ is the proportion of depth surviving that conversion.

Four scope conditions bound the theory. It applies where (i) the policy chain has institutionally differentiated stages, so that framing, mandate, budget, and implementation are distinct moments held by distinct actors; (ii) the commitment originates in a discursive instrument rather than in statute or a fixed budget line; (iii) the prior distribution of land, time, documentation, and organisational form is unequal by gender; and (iv) allocation rules are formally general rather than explicitly gendered. Where these conditions do not hold, the theory makes no claim.

4.2. The theory stated

Core Statement. Gender commitment loses integration depth multiplicatively across a sequence of six institutional conversions. Loss concentrates at conversions where a discursive instrument must be re-expressed as a fiscal or administrative rule. The magnitude of loss at each conversion is governed by the medium carrying the commitment, not by the strength or sincerity of the commitment itself.

Formally, realised depth at the outcome stage is given by Equation 1:

$$D_6 = D_0 \times \tau_1 \times \tau_2 \times \tau_3 \times \tau_4 \times \tau_5 \times \tau_6 \quad (1)$$

and total attenuation is $A = 1 - \prod \tau_k$. Absent a countervailing instrument the theory predicts $\tau_k \leq 1$ at every conversion. Values above 1 are possible in principle, where a conversion adds depth the previous stage did not carry, but they require an actor with authority at that stage and are the exception the stage-specific instruments in Table 2. are designed to produce.

Two properties follow from multiplicativity, and they carry the theory's practical content.

The Bottleneck Property. Because depth is transmitted as a product rather than a sum, a conversion with τ close to zero renders realised depth insensitive to depth at every upstream stage. Doubling D_0 leaves D_6 effectively unchanged if τ_3 is near zero. This explains formally why three decades of increasingly sophisticated framing language have not moved distributive outcomes, and why the recommendation to strengthen gender integration is not merely vague but potentially misdirected, since it usually operates on D_0 .

The Diagnostic Corollary. If realised depth is governed by $\min(\tau_k)$, diagnosis means locating the minimum transmission ratio in a specific policy system rather than measuring aggregate ambition. This reframes the object of measurement and grounds the stage-specific instruments in Table 2.

The formalism is offered as a structure for reasoning rather than an estimable equation. Integration depth is ordinal, so τ is not a ratio-scale quantity, and the propositions below are stated in terms of ordering and relative magnitude, which ordinal data can support.

4.3. The Six Conversions

Policy framing recognises gender as a relevant issue; institutional mandate assigns responsibility to a named agency with specified authority; budget allocation attaches resources to that mandate; eligibility and implementation determine who can access those resources and on what administrative conditions; distribution determines how benefits and burdens are shared among those reached; and resilience outcome determines whether exposure, sensitivity, or adaptive capacity changed over time.

Each stage fails characteristically. A plan may contain strong language and name no responsible agency; an agency may hold a mandate and command no budget; a funded programme may apply eligibility rules that exclude women without documented title; and monitoring may count participants without recording control over benefits. Each is a distinct failure requiring a distinct remedy, and treating them as a single deficit of political will conceals these differences. Table 2. gives, for each stage, the conversion required, the mechanism of loss, the evidence signature, and the countervailing instrument with the actor able to deploy it.

4.4. Five Propositions

P1. Depth Gradient. Within a policy system, integration depth is ordered recognition, then representation, then accountability, then redistribution, then capabilities. The ordering follows the cost imposed on incumbent allocations: recognition requires analytical change only; representation requires seats but not necessarily authority; accountability requires disclosure and therefore exposure to challenge; redistribution requires reallocation of resources; and capability expansion requires reallocation sustained beyond a project cycle.

P2. Step Attenuation. The sequence of ratios τ_1 to τ_6 is non-uniform, with minima at τ_3 (mandate into budget) and τ_4 (budget into eligibility). The observable implication is a step-shaped profile: approximately flat across declaratory indicators, a steep fall into operational content, a further plateau, and a second steep fall at the fiscal boundary.

P3. Neutral-Rule Selectivity. Formally gender-neutral allocation and eligibility criteria produce unequal gendered outcomes without gendered intent, by interacting with existing inequalities in tenure, documentation, time, and organisational form. The mechanism requires no discriminatory language and generates outcome data reportable as neutral administration. P3 specifies the mechanism operating at τ_4 .

P4. Instrument Survivability. τ_k is a function of the medium carrying the commitment rather than of its content. Instruments carried by a specific fiscal or legal code, including budget lines, eligibility criteria, and statutory duties, exhibit higher τ_k than discursive instruments, including framing language, strategies, and stated priorities.

P5. Verification Asymmetry. Attenuation is detectable only where verification is held by an actor other than the implementing institution. Where verification is internal, measured τ_k exceeds true τ_k , so measured attenuation in self-reported systems is a lower bound on actual attenuation.

4.5. Mechanisms at the Two Critical Conversions

At the mandate-to-budget conversion, institutional fragmentation combines with rules governing what can be financed. Responsibility for gender equality typically rests with a gender ministry, while better-resourced environment, energy, or planning ministries control climate portfolios. Gender focal points in climate units often lack technical authority, budgets, or influence over programme design. This fragmentation is embedded in the political settlement rather than being a design oversight, so changes to organisational charts rarely resolve it. The clearest evidence is budgetary. A review of 155 policy documents and plans in Uganda and Tanzania found gender integrated into policy text but unsupported by budget provision in district and lower-level implementation plans (Ampaire et al., 2020). Climate finance criteria deepen this problem. Fiduciary standards, minimum project scales, and definitions of investable return favour large infrastructure,

formal organisations, and measurable returns. Grassroots adaptation, care infrastructure, and locally led ecosystem management often appear too small or difficult to aggregate. The resulting allocation is gendered despite neutral rules, while the elite capture found in low-carbon transitions operates in similar ways (Sovacool & Brisbois, 2019; Zhao et al., 2025).

At the budget-to-eligibility conversion, neutral access rules interact with prior inequality. Access commonly requires documented title or collateral, formal identification, organisational registration, auditable financial records, proposal capacity, co-financing, and attendance at scheduled meetings. These requirements serve legitimate control purposes but encounter existing disadvantages. Title requirements meet tenure systems in which women hold fewer than 15 per cent of agricultural landholdings (Tabbush & Howell, 2025). Registration requirements disadvantage informal women's collectives, while scheduled meetings conflict with unpaid care responsibilities. The conversion is therefore procedurally fair but distributively selective. It escapes accountability systems that assess whether gender was considered rather than whether access was equal. Upstream policy language cannot alter an eligibility rule. As established in Section 4.2, upstream depth cannot compensate for a low τ_4 .

Table 2. The Attenuation Cascade: Conversions, Mechanisms, Evidence and Countervailing Instruments

Stage	Conversion required	Mechanism of loss	Evidence signature	Countervailing instrument (actor)
1 Framing	Recognition into obligation	Gender enters as preamble and cross-cutting theme, creating no downstream duty	81.5% of Parties reference gender in latest NDCs; 54.9% in LT-LEDS	Analysis tied to at least one sector target with baseline and endline (governments)
2 Mandate	Obligation into assigned authority	Responsibility split between gender and environment ministries with asymmetric authority and budget	45% embed national gender machinery in climate coordination	Named post with signature authority over programme design and a recurrent budget code (environment and finance ministries)
3 Budget	Authority into resources	Criteria favouring scale, formal intermediaries, collateral and measurable return allocate along gendered lines without gendered rules	0.04% to about 3% of climate-related development finance gender-principal; 18% of UNDP-supported NDCs cite gender in a finance strategy	Minimum allocation with transparent marker criteria and externally verified marker assignment (finance ministries, GCF, GEF, donors)
4 Eligibility	Resources into access	Formally neutral requirements on title, registration, proposal capacity and attendance interact with prior inequality	Women hold under 15% of agricultural landholdings; women's organisations excluded from application processes	Simplified applications, recognition of collective and informal tenure, funded proposal support, direct-access windows (funds, implementing entities)
5 Distribution	Access into benefit	Interventions reach women while transferring unpaid labour or exposing them to backlash over changed resource control	Adaptation redistributes rather than reduces vulnerability where bargaining is unaddressed	Time-use and maladaptation warning indicators against a matched baseline (implementing agencies, statistical offices)
6 Outcome	Benefit into durable capacity	Monitoring records participation and delivery rather than control, agency and durability	Self-reported donor commitment diverges from independent screening	Independent verification with remedies, and remeasurement two years after close (audit institutions, UNFCCC, civil society)

Note. ODA = official development assistance; GCF = Green Climate Fund; GEF = Global Environment Facility; LT-LEDS = long-term low-emission development strategies. Evidence drawn from UNFCCC (2024), UN Women (2024, 2025, 2026), UNDP (2022) and Murray and Mandujano (2025), Byrd and Bagnera (2022), OECD (2022, 2024), Ampaire et al. (2020), Tabbush and Howell (2025), Cichocka et al. (2024), Schipper (2020) and Eriksen et al. (2021). Indicators in column four come from different reporting populations and are signatures of the predicted pattern rather than estimates of τ .

5. Thematic Synthesis

5.1. Theme One: Declaratory Saturation and its Ceiling

Gender references increased from a small minority of first-generation intended NDCs in 2015 to 81.5 per cent of Parties by July 2024 (UNFCCC, 2024). Yet frequency remains a poor proxy for depth. Gender language commonly appears in preambles and cross-cutting themes rather than in sector targets, implementation measures, or financing commitments. A review of adaptation programmes across 31 countries identified this pattern before the Paris cycle (Holvoet & Inberg, 2014), and the following decade has not corrected it.

Variation within the declaratory tier supports P4. Gender references are highest in national adaptation plans at 95.0 per cent and national communications at 93.8 per cent, both reporting instruments. They fall to 54.9 per cent in long-term low-emission development strategies, which are closer to long-term investment planning (UNFCCC, 2024). Thus, the instrument nearest to resource commitment carries the least gender content.

The UN Women Gender Equality and Climate Policy Scorecard provides the most structured evidence, using 50 indicators across unpaid care, economic security, health, gender-based violence, participation and leadership, and cross-cutting mainstreaming (Tabbush & Howell, 2025; UN Women, 2025). Among the first 32 third-iteration NDCs assessed, 26 contained at least one gender-responsive commitment, but only ten addressed gender comprehensively across five or six dimensions. Assessment of 67 NDCs sustained this pattern (UN Women, 2026). Economic security and participation receive greater attention than unpaid care, health, and gender-based violence, while loss and damage accounts for only a small share. This provides independent evidence of the depth gradient proposed in P1.

Institutional evidence places mandate between framing and finance. By 2025, 45 per cent of countries had included national gender equality machinery in climate coordination mechanisms, while at least 34 had adopted a gender and climate strategy (UN Women, 2025). These values lie between near-universal framing and low single-digit fiscal shares, supporting graded rather than binary loss.

The Belém Gender Action Plan is more operationally detailed and intersectionally specific than its predecessors (UNFCCC, 2025), but its accountability remains limited. Implementation depends on Party action and monitoring through existing reporting channels. The first structured assessment will begin in June 2029 and conclude in November 2029. Until then, implementation evidence will remain largely self-reported, without independent verification or financial consequences for non-compliance. Consistent with P5, this design is likely to understate actual attenuation.

5.2. Theme Two: The Fiscal and Eligibility Bottleneck

Figure 1. Presents The Available Quantitative Indicators as a Cascade Profile On a Logarithmic Axis, Which Makes the Lower Stages Visible. Three Features Are Important.

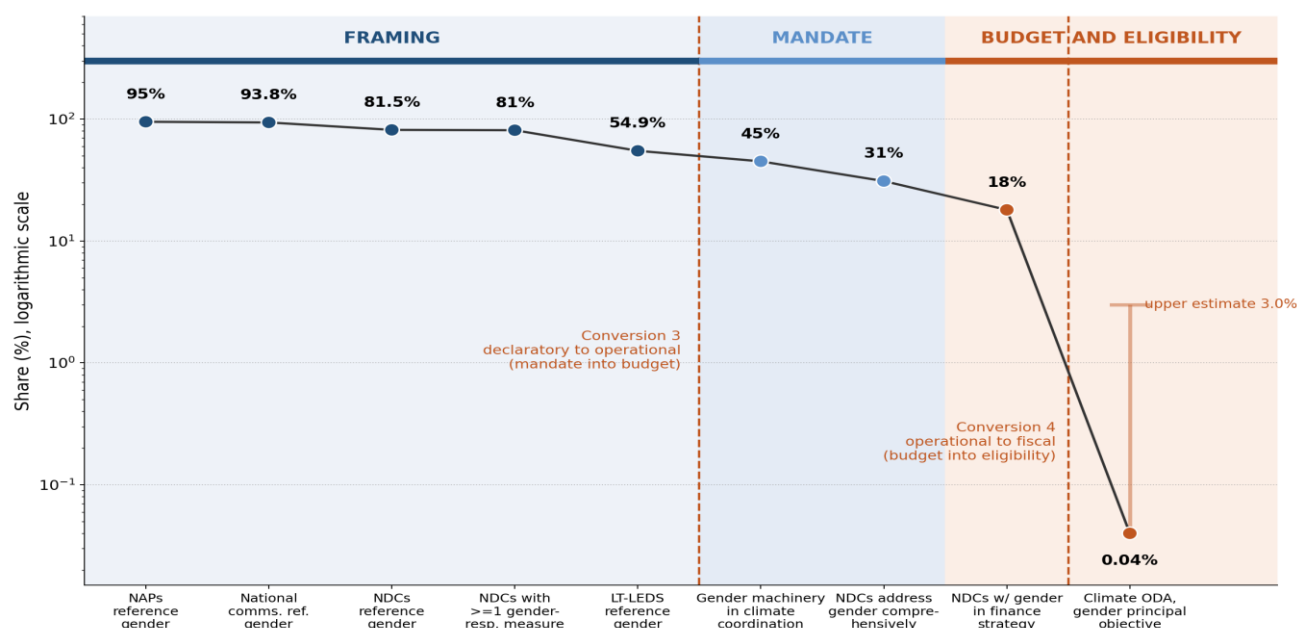


Figure 1. The attenuation cascade in gender-sensitive climate resilience policy. Indicators are drawn from UNFCCC (2024), UN Women (2025, 2026), UNDP (2022), Byrd and Bagnera (2022) and OECD (2022, 2024). The vertical bar at the fiscal indicator shows the range between the 0.04 per cent estimate for climate-focused ODA in 2019 and DAC-marker-based estimates of about 3 per cent. Indicators originate in different reporting populations and do not form a longitudinal series, so the figure shows the ordinal shape of attenuation across the policy chain rather than the passage of a single cohort through it.

First, the magnitude requires careful interpretation. The widely cited estimate of 0.04 per cent comes from an analysis of climate-focused ODA in 2019 (Byrd & Bagnera, 2022). Analyses using the DAC gender marker report that 2 to 3 per cent of climate-related development finance identifies gender equality as a principal objective (OECD, 2022, 2024; UN Women, 2024). Differences in denominators, reporting years, and treatment of overlapping climate and gender markers explain part of this divergence. Figure 1 therefore presents both bounds. Despite this uncertainty, the gap between declaratory rates of 81.5 to 95.0 per cent and fiscal shares of 0.04 to 3 per cent spans approximately one and a half to three and a half orders of magnitude. The indicators cannot be interpreted as a transmission ratio because their numerators and denominators differ. They establish an ordering rather than a coefficient.

Second, the shape provides a qualitative test of P2. The profile remains nearly flat across declaratory indicators, falls at operational content, plateaus, and falls sharply again at the fiscal boundary. This step pattern locates the main constraints where mandate becomes budget and budgeted intention becomes eligibility rules. It supports P2 rather than an alternative expectation of proportional decline across all stages.

Third, even leading performers experience these losses. In 2022, less than one third of France's climate-marked assistance identified gender as a principal objective, against a target of 75 per cent. Gender screening of United Kingdom international climate finance also declined between 2022 and 2024 (Cichocka et al., 2024). Green Climate Fund policy requires gender analysis and monitoring, but longer-term review finds limited achievement of transformative outcomes beyond procedural compliance (Murray & Mandujano, 2025). Application requirements are therefore more likely to be satisfied than outcome requirements at disbursement, reproducing the cascade within a single institution.

5.3 Theme Three: The Depth Signature Across Policy Systems

Table 3. specifies the five-domain rubric and reports domain means; Table 4. gives the full case by domain matrix, also shown in Figure 2. Mean depth is highest for recognition (2.2), followed by representation (1.8), accountability (1.6), redistribution (1.4), and capabilities (1.2). No case reaches the transformative level on redistribution or capabilities, and the only transformative scores are on recognition, in Nepal and the Pacific states. The aggregate ordering is monotonic in the direction P1 predicts.

That ordering should not be overstated. Treating the five cases as independent raters of the five domains gives a Kendall coefficient of concordance of $W = 0.32$ ($\chi^2(4) = 6.44, p = 0.17$), which does not reach conventional significance. The aggregate gradient therefore reflects consistent direction rather than strong agreement, and the European Union case runs against it on two domains. Combined with the design limitation in Section 3.2, the correct conclusion is that the case evidence is consistent with P1 and does not confirm it. Stronger support comes from the Scorecard's independent finding that measures concentrate in economic security and participation while unpaid care, health, and gender-based violence lag, since that ordering was produced by other analysts using other criteria.

Table 3. Five-Domain Depth Rubric with Scoring Anchors and Observed Means

Domain	Core question	Scoring anchors	Mean (n = 5)
Recognition	Whose risks, knowledge and identities are made visible?	0 differentiated effects not acknowledged; 1 women named as vulnerable without differentiation; 2 risk assessment differentiated within the category of women; 3 marginalised groups shape how problems are defined	2.2
Representation	Who participates, sets priorities and holds decision authority?	0 no provision; 1 consultation without defined influence; 2 formal seats, quotas or committee membership; 3 documented evidence that participation changed a decision or allocation	1.8
Accountability	Can commitments be monitored, challenged and corrected?	0 no monitoring; 1 reporting without indicator; 2 indicators defined and reported by the implementing institution; 3 independent verification with consequences and remedies	1.6
Redistribution	Who controls finance, assets, technology, time and benefits?	0 allocation not examined by gender; 1 inequality acknowledged in text only; 2 budget lines, quotas or services adapted; 3 resources and unpaid burdens measurably shift	1.4
Capabilities	Do people gain real freedom to anticipate, adapt and recover?	0 outcomes measured as delivery only; 1 barriers to use acknowledged; 2 effective access demonstrated, not only provision; 3 adaptation expands substantive choice without harmful coping	1.2

Note. Anchors are observable conditions, so scores can be defended or contested against evidence. The rubric is non-compensatory: strength in one domain does not offset weakness in another. Means are the author's coding of five policy systems, assigned conservatively with ambiguity resolved to the lower score, and should be read as a structured argument about relative depth rather than as measurement.

Table 4. Depth Scores by Policy System and Domain

Policy system	Recognition	Representation	Accountability	Redistribution	Capabilities	Case mean
Bangladesh	2	2	1	1	1	1.4
Rwanda	2	2	2	2	1	1.8
Nepal	3	2	2	1	2	2.0
Pacific SIDS	3	2	1	1	1	1.6
European Union	1	1	2	2	1	1.4
Domain mean	2.2	1.8	1.6	1.4	1.2	1.64

Note. Pacific SIDS = Fiji and Vanuatu. Scale: 0 gender-blind, 1 gender-aware, 2 gender-responsive, 3 gender-transformative. Kendall's W across the five cases = 0.32, $\chi^2(4) = 6.44, p = 0.17$.

The South Asian cases combine strong analysis with weak distributive effect. Bangladesh's adaptation processes include gender-disaggregated vulnerability assessment and support for women's participation in local adaptation committees (Azad & Pritchard, 2023), yet barriers to secure tenure persist and climate finance flows predominantly to infrastructure in which women are not direct beneficiaries. Project-scale analysis reinforces the point, with participation outcomes varying by marital status, land access, and household position, so that programmes reaching women as a category often miss those whose adaptive capacity is most constrained (Jannat & Kusakabe, 2024).

Nepal's Gender Equality and Social Inclusion strategy operationalises intersectionality rather than only invoking it, and early warning access has been extended to rural women in hill and mountain communities (Prakash et al., 2024), producing the only capabilities score of 2 in the set. The constraint is that such practices remain project-dependent rather

than embedded in systems with reliable budget lines, a mandate-to-budget failure in the sense of P4 (Nagoda & Nightingale, 2017).

Rwanda shows the broadest representation. The constitutional 30 per cent parliamentary quota, extended into environment and local adaptation committees, has increased women's presence in decision spaces, and the NDC incorporates gender-responsive budgeting (Prakash et al., 2024). It scores 2 rather than 3 on representation because the transformative anchor requires evidence that participation changed decisions rather than attendance. This is the most consequential scoring decision here: a reviewer treating quota-driven presence as sufficient would score 3 and raise the representation mean to 2.0, leaving the gradient's direction unchanged.

The Pacific and European cases show opposite profiles, and together they suggest that depth does not track income. Pacific island states have formally recognised women's custodianship of coastal and marine ecosystems in national adaptation frameworks (Lau et al., 2021), scoring 3 on recognition, while women's organisations report chronic underfunding and exclusion from application processes requiring unsupported technical capacity, scoring 1 on redistribution, capabilities, and accountability. This is the clearest available demonstration that recognition is separable from redistribution and does not automatically generate it.

The European Union inverts the profile: gender impact assessment is required across EU-funded climate programmes, scoring 2 on both redistribution and accountability, while recognition scores 1 because the regulatory approach treats gender as procedural compliance rather than as an analytical question about who bears differentiated risk, with blind spots persisting most visibly in the renewable energy transition. Rwanda reaches the same pair of scores through budgeting rules rather than programme-level assessment, which is consistent with P4: what the two share is a fiscal or regulatory carrier, not a political tradition.



Figure 2. Depth scores by policy system and analytical domain. Scores follow the anchors in Table 3: 0 gender-blind, 1 gender-aware, 2 gender-responsive, 3 gender-transformative. Domain means appear below each column. Scores are the author's coding and should be read as a structured argument about relative depth rather than as measurement.

A plausible alternative reading deserves statement. Recognition might simply be easier to evidence in policy documents, so the gradient could reflect documentary visibility rather than substantive depth. Two considerations argue against this without eliminating it. Redistribution and capabilities are not undocumented in these cases; they are documented as gaps, with sources identifying tenure exclusion in Bangladesh, finance constraints in Rwanda, and underfunding of women's organisations in the Pacific. And the fiscal evidence in Figure 1. produces the same ordering from a different evidence base, and agreement between a document-coded signature and an expenditure-based one is more consistent with a substantive pattern than with a documentary artefact.

6. Boundary Conditions and Falsification

A useful theory must be capable of failure. The cascade therefore has four boundary conditions and four falsification criteria.

First, the theory assumes the institutional differentiation specified in scope condition (i). It loses diagnostic power where stages collapse, as in highly centralised or small administrations where one ministry performs several functions, or where donor projects bypass state budgets. The Pacific cases lie closest to this boundary.

Second, the theory treats recognition as separable from redistribution, not as unimportant. Nepal suggests that intersectional recognition may precede and enable expanded early warning access. If recognition is necessary but insufficient for redistribution, the theory's emphasis would change without invalidating the cascade.

Third, both bounds of the fiscal indicator exclude finance where gender is a significant rather than principal objective, domestic public expenditure, and unmarked interventions benefiting women. Fuller accounting would increase the fiscal share and reduce the slope, but not necessarily change its direction. Reporting bias works in the opposite direction because institutional sources may overstate success, yet the observed depth scores remain low.

Fourth, the formalism assumes that depth at stage k depends only on depth at stage $k-1$. It excludes feedback for tractability, although later failures may alter earlier stages. Repeated disbursement failure, for example, may weaken framing ambition in a subsequent planning cycle.

Four findings would falsify the propositions. P4 would fail if systems with specific mandates and attached budgets showed the same attenuation as systems without them. P3 would fail if eligibility audits found no differences in application, approval, or disbursement under formally neutral rules. P2 would fail if longitudinal tracing found losses distributed evenly rather than concentrated at two conversions. P1 would fail if independent blind coding produced no consistent ordering of domain depth.

7. Implications

Stage-specific attenuation requires stage-specific remedies. General calls to strengthen gender integration are operationally weak because they do not identify where loss occurs. Three design principles follow from Section 4.2. Instruments must address the stage of loss because stronger framing cannot correct eligibility failure. Each commitment requires a verifiable indicator held by an actor other than the implementing institution, as proposed in P5. Instruments must also be selected for their ability to survive institutional conversion, as proposed in P4. Table 2. identifies suitable instruments and the actors able to deploy them.

Minimum allocation targets for gender-responsive climate finance require caution. These targets operate at the budget stage and are verified through marker assignment. They may therefore be met by relabelling existing expenditure rather than reallocating resources. Increasing the marked share without changing eligibility rules raises the stage-three indicator while leaving the stage-four mechanism unchanged. In formal terms, it raises D_3 without changing τ_4 and therefore cannot materially increase D_6 . Allocation targets should be combined with transparent marker criteria, independent verification, direct-access windows, simplified procedures, and public reporting on final beneficiaries. Without these measures, a target may move the point of loss rather than reduce it.

Measurement should connect indicators across the results chain. Kabeer's (1999) distinction among resources, agency, and achievements provides an organising logic because resource delivery alone does not show whether agency or achievement followed. Measurement should also detect unintended harm, including increased unpaid work, debt stress, elite capture, digital exclusion, violence linked to changing resource control, and displacement of informal users by adaptation infrastructure (Schipper, 2020; Eriksen et al., 2021). Disaggregation should address a defined analytical purpose without exposing marginalised groups to stigma or retaliation. Since norms and perceived agency influence participation alongside information, assessment should combine quantitative and qualitative methods (Goli et al., 2020).

Five research designs could test the theory. Single-jurisdiction cascade tracing could follow defined commitments through mandate, budget, disbursement, and beneficiary distribution over one planning cycle, turning Figure 1 into a longitudinal estimate of τ . Matched comparisons of systems with similar framing but different budget attachment could test P4. Administrative audits of application, approval, and disbursement could test P3. Post-project capability measurement could assess whether gains persist. Independent coders blind to the propositions could apply the Table 3 rubric and provide the test of P1 that Section 5.3 cannot. Future comparisons should also include under-represented regions, particularly Latin America and Francophone Africa.

8. Conclusion

Gender inequality and climate vulnerability arise through related social structures. Many of the conditions shaping adaptive capacity also reproduce gender inequality (Andrijevic et al., 2020; Eastin, 2018). International climate policy has recognised this relationship with increasing precision, with the Belém Gender Action Plan providing its most detailed operational expression.

This article argues that the failure to convert recognition into outcomes is better understood as an attenuation cascade than as a general implementation gap. Gender commitment passes through six institutional conversions and loses integration depth multiplicatively. Realised depth is therefore governed by the weakest conversion rather than the ambition of the initial commitment. Loss concentrates where mandate becomes budget and where budget becomes eligibility. At these points, apparently neutral financial and administrative rules interact with prior inequalities in land, time, documentation, and organisational form to create selective access without explicit discriminatory intent.

The practical implication is a change in priority. The central constraint is neither a shortage of commitment language nor simply a lack of sincerity, but the absence of instruments that survive conversion. Budget lines endure where stated priorities do not. Eligibility rules govern access regardless of the framing that authorised them. Independent verification reveals attenuation that self-reporting may conceal. Further effort at the framing stage offers limited benefit, while action at the budget and eligibility stages addresses the losses identified by the evidence. Women in climate-exposed communities already build resilience through knowledge sharing, collective resource management, and solidarity. The task of climate governance is not to create this resilience, but to stop attenuating the commitments intended to support it.

Declarations

Author Contributions

The author confirms sole responsibility for all aspects of this work.

Funding

This research received no external funding.

Acknowledgements

None.

Conflict of Interest

The author declares no conflict of interest.

Data Availability Statement

No new data were generated or analysed in this study.

Use of AI and AI-Assisted Technologies

Microsoft Copilot was used solely to apply the journal's formatting requirements to the manuscript. The author takes full responsibility for the accuracy and integrity of all content.

Ethical Approval and Justification for Exemption

Not applicable. This theory-building article uses published literature and institutional reports and does not involve human participants, human data, or human materials.

References

- Agarwal, B. (2009). Gender and forest conservation: The impact of women's participation in community forest governance. *Ecological Economics*, 68(11), 2785–2799. <https://doi.org/10.1016/j.ecolecon.2009.04.025>.
- Ampaire, E. L., Acosta, M., Huyer, S., Kigonya, R., Muchunguzi, P., Muna, R., & Jassogne, L. (2020). Gender in climate change, agriculture, and natural resource policies: Insights from East Africa. *Climatic Change*, 158(1), 43–60. <https://doi.org/10.1007/s10584-019-02447-0>.
- Andrijevic, M., Crespo Cuaresma, J., Lissner, T., Thomas, A., & Schleussner, C.-F. (2020). Overcoming gender inequality for climate resilient development. *Nature Communications*, 11, Article 6261. <https://doi.org/10.1038/s41467-020-19856-w>.
- Arora-Jonsson, S. (2011). Virtue and vulnerability: Discourses on women, gender and climate change. *Global Environmental Change*, 21(2), 744–751. <https://doi.org/10.1016/j.gloenvcha.2011.01.005>.
- Azad, M. J., & Pritchard, B. (2023). The importance of women's roles in adaptive capacity and resilience to flooding in rural Bangladesh. *International Journal of Disaster Risk Reduction*, 90, Article 103660. <https://doi.org/10.1016/j.ijdr.2023.103660>.
- Bacchi, C. (2009). *Analysing policy: What's the problem represented to be?* Pearson Education.
- Bryan, E., Alvi, M., Huyer, S., & Ringler, C. (2024). Addressing gender inequalities and strengthening women's agency for climate-resilient and sustainable food systems. *Global Food Security*, 40, Article 100731. <https://doi.org/10.1016/j.gfs.2023.100731>.
- Byrd, R., & Bagnera, E. (2022, November 10). *Gender-smart climate finance: Three things you need to know ahead of COP27*. Climate Policy Initiative. <https://www.climatepolicyinitiative.org/gender-smart-climate-finance-three-things-you-need-to-know-ahead-of-cop27/>.
- Cichocka, B., Hughes, S., & Mitchell, I. (2024, March 7). *Are providers of climate finance tackling gender effectively?* Center for Global Development. <https://www.cgdev.org/blog/are-providers-climate-finance-tackling-gender-effectively>.
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241–1299. <https://doi.org/10.2307/1229039>.
- Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social vulnerability to environmental hazards. *Social Science Quarterly*, 84(2), 242–261. <https://doi.org/10.1111/1540-6237.8402002>.

- Dankelman, I., & Naidu, K. (2020). Introduction: Gender, development, and the climate crisis. *Gender & Development*, 28(3), 447–457. <https://doi.org/10.1080/13552074.2020.1843830>.
- Djoudi, H., Locatelli, B., Vaast, C., Asher, K., Brockhaus, M., & Basnett Sijapati, B. (2016). Beyond dichotomies: Gender and intersecting inequalities in climate change studies. *Ambio*, 45(Suppl. 3), 248–262. <https://doi.org/10.1007/s13280-016-0825-2>.
- Eastin, J. (2018). Climate change and gender equality in developing states. *World Development*, 107, 289–305. <https://doi.org/10.1016/j.worlddev.2018.02.021>.
- Eriksen, S., Schipper, E. L. F., Scoville-Simonds, M., Vincent, K., Adam, H. N., Brooks, N., Harding, B., Khatri, D., Lenaerts, L., Liverman, D., Mills-Novoa, M., Mosberg, M., Movik, S., Muok, B., Nightingale, A., Ojha, H., Sygna, L., Taylor, M., Vogel, C., & West, J. J. (2021). Adaptation interventions and their effect on vulnerability in developing countries: Help, hindrance or irrelevance? *World Development*, 141, Article 105383. <https://doi.org/10.1016/j.worlddev.2020.105383>.
- Fraser, N. (1995). From redistribution to recognition? Dilemmas of justice in a post-socialist age. *New Left Review*, 212, 68–93.
- Goli, I., Omid Najafabadi, M., & Lashgarara, F. (2020). Where are we standing and where should we be going? Gender and climate change adaptation behavior. *Journal of Agricultural and Environmental Ethics*, 33(2), 187–218. <https://doi.org/10.1007/s10806-020-09822-3>.
- Han, W., Zhang, X., & Zhang, Z. (2019). The role of land tenure security in promoting rural women's empowerment: Empirical evidence from rural China. *Land Use Policy*, 86, 280–289. <https://doi.org/10.1016/j.landusepol.2019.05.001>.
- Hathaway, E. (2025). Does gender matter for climate change governance? A review of empirical research. *Interest Groups & Advocacy*. Advance online publication. <https://doi.org/10.1057/s41253-025-00287-2>.
- Heikkilä, T., & Jones, M. D. (2022). How diverse and inclusive are policy process theories? *Policy & Politics*, 50(1), 21–42. <https://doi.org/10.1332/030557321X16309516764367>.
- Holvoet, N., & Inberg, L. (2014). Gender sensitivity of Sub-Saharan Africa national adaptation programmes of action: Findings from a desk review of 31 countries. *Climate and Development*, 6(3), 266–276. <https://doi.org/10.1080/17565529.2013.867250>.
- Huyer, S., Acosta, M., Gumucio, T., & Ilham, J. I. J. (2020). Can we turn the tide? Confronting gender inequality in climate policy. *Gender & Development*, 28(3), 571–591. <https://doi.org/10.1080/13552074.2020.1836817>.
- Intergovernmental Panel on Climate Change. (2022). *Climate change 2022: Impacts, adaptation and vulnerability: Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (H.-O. Pörtner, D. C. Roberts, M. Tignor, E. S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, & B. Rama, Eds.). Cambridge University Press. <https://doi.org/10.1017/9781009325844>.
- Jannat, G., & Kusakabe, K. (2024). Women's participation in community-based adaptation to climate change (CBACC): An intersectional analysis. *Social Sciences*, 13(7), Article 354. <https://doi.org/10.3390/socsci13070354>.
- Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change*, 30(3), 435–464. <https://doi.org/10.1111/1467-7660.00125>.
- Lau, J. D., Kleiber, D., Lawless, S., & Cohen, P. J. (2021). Gender equality in climate policy and practice hindered by assumptions. *Nature Climate Change*, 11(3), 186–192. <https://doi.org/10.1038/s41558-021-00999-7>.
- Limaye, V. S. (2023). The hidden health costs of climate change: Accounting for extreme heat harms to women in the Global South. *PLOS Climate*, 2(8), Article e0000267. <https://doi.org/10.1371/journal.pclm.0000267>.
- Longwe, S. H. (1997). The evaporation of gender policies in the patriarchal cooking pot. *Development in Practice*, 7(2), 148–156. <https://doi.org/10.1080/09614529754611>.
- Mahoney, J., & Thelen, K. (Eds.). (2010). *Explaining institutional change: Ambiguity, agency, and power*. Cambridge University Press.
- Milward, K., Mukhopadhyay, M., & Wong, F. F. (2015). Gender mainstreaming critiques: Signposts or dead ends? *IDS Bulletin*, 46(4), 75–81. <https://doi.org/10.1111/1759-5436.12160>.
- Murken, L., & Gornott, C. (2022). The importance of different land tenure systems for farmers' response to climate change: A systematic review. *Climate Risk Management*, 35, Article 100419. <https://doi.org/10.1016/j.crm.2022.100419>.
- Murray, U., & Mandujano, A. L. (2025). *Gender equality in climate action: Taking stock of progress and lessons learned from the NDC Support Programme (2017–2025)*. United Nations Development Programme. https://climate-promise.undp.org/sites/default/files/2025-04/UNDP_NDC%20SP_Lessons%20Learned_Gender%20equality%20in%20climate%20action_FINAL_4.17.pdf.
- Nagoda, S., & Nightingale, A. J. (2017). Participation and power in climate change adaptation policies: Vulnerability in food security programs in Nepal. *World Development*, 100, 85–93. <https://doi.org/10.1016/j.worlddev.2017.07.022>.
- Neumayer, E., & Plümper, T. (2007). The gendered nature of natural disasters: The impact of catastrophic events on the gender gap in life expectancy, 1981–2002. *Annals of the Association of American Geographers*, 97(3), 551–566. <https://doi.org/10.1111/j.1467-8306.2007.00563.x>.
- Organisation for Economic Co-operation and Development. (2022). *Development finance for gender-responsive climate action*. <https://doi.org/10.1787/1e04e5ae-en>.

- Organisation for Economic Co-operation and Development. (2024). *Development finance for gender equality 2024*. <https://doi.org/10.1787/e340afb-en>.
- Pelling, M. (2011). *Adaptation to climate change: From resilience to transformation*. Routledge.
- Prakash, A., Ley, D., & Thamari, M. (2024). How gender-sensitive are environmental institutions, climate adaptation, and mitigation actions? A narrative from the Global South. *Annual Review of Environment and Resources*, 49, 449–474. <https://doi.org/10.1146/annurev-environ-121322-073202>.
- Prakash, A., Totin, E., Kemp, G., Bezner Kerr, R., & Roberts, D. (2025). Bridging the gap: Promoting gender equity in climate change adaptation in the Global South. *PLOS Climate*, 4(6), Article e0000556. <https://doi.org/10.1371/journal.pclm.0000556>.
- Rao, N., Mishra, A., Prakash, A., Singh, C., Qaisrani, A., Poonacha, P., Vincent, K., & Bedelian, C. (2019). A qualitative comparative analysis of women's agency and adaptive capacity in climate change hotspots in Asia and Africa. *Nature Climate Change*, 9(12), 964–971. <https://doi.org/10.1038/s41558-019-0638-y>.
- Rocheleau, D., Thomas-Slayter, B., & Wangari, E. (Eds.). (1996). *Feminist political ecology: Global issues and local experiences*. Routledge.
- Schipper, E. L. F. (2020). Maladaptation: When adaptation to climate change goes very wrong. *One Earth*, 3(4), 409–414. <https://doi.org/10.1016/j.oneear.2020.09.014>.
- Sen, A. (1999). *Development as freedom*. Oxford University Press.
- Sovacool, B. K., & Brisbois, M.-C. (2019). Elite power in low-carbon transitions: A critical and interdisciplinary review. *Energy Research & Social Science*, 57, Article 101242. <https://doi.org/10.1016/j.erss.2019.101242>.
- Sultana, F. (2014). Gendering climate change: Geographical insights. *The Professional Geographer*, 66(3), 372–381. <https://doi.org/10.1080/00330124.2013.821730>.
- Sultana, F. (2022). Critical climate justice. *The Geographical Journal*, 188(1), 118–124. <https://doi.org/10.1111/geoj.12417>.
- Tabbush, C., & Howell, B. (2025). Gender equality and climate policy scorecard: A framework for assessing country performance on gender-responsive climate action 30 years after Beijing. *Statistical Journal of the IAOS*, 41(3), 705–722. <https://doi.org/10.1177/18747655251371005>.
- Terry, G. (2009). No climate justice without gender justice: An overview of the issues. *Gender & Development*, 17(1), 5–18. <https://doi.org/10.1080/13552070802696839>.
- UN Women. (2024). *Submission to the UNFCCC Standing Committee on Finance Forum on gender-responsive climate finance*. <https://unfccc.int/sites/default/files/resource/UN%20Women%20Submission%20-%20UNFCCC%20Standing%20Committee%20on%20Finance.pdf>.
- UN Women. (2025). *The Gender Equality and Climate Policy Scorecard: Advancing accountability in nationally determined contributions* (Progress of the World's Women Fact Sheet No. 1). <https://knowledge.unwomen.org/sites/default/files/2025-11/progress-of-the-worlds-women-fact-sheet-01-gender-equality-and-climate-policy-scorecard-en.pdf>.
- UN Women. (2026). *The Gender Equality and Climate Policy Scorecard: Methodological note* (Version 2). UN Women & Kaschak Institute for Social Justice for Women and Girls. <https://brasil.unwomen.org/sites/default/files/2025-11/gender-equality-and-climate-policy-scorecard-methodological-note-en.pdf>.
- United Nations Development Programme. (2022). *Advancing gender equality in national climate plans: Progress and higher ambitions*. <https://www.undp.org/publications/advancing-gender-equality-national-climate-plans-progress-and-higher-ambitions>.
- United Nations Framework Convention on Climate Change. (2024). *Implementation of gender-responsive climate policies, plans, strategies and action as reported by Parties in regular reports and communications under the UNFCCC: Synthesis report by the secretariat* (FCCC/CP/2024/5). https://unfccc.int/sites/default/files/resource/cp2024_05_adv_0.pdf.
- United Nations Framework Convention on Climate Change. (2025). *Belém gender action plan* (Decision 7/CP.30). https://unfccc.int/sites/default/files/resource/COP30_14_Gender_AUV.pdf.
- van Eerdewijk, A. (2014). The micropolitics of evaporation: Gender mainstreaming instruments in practice. *Journal of International Development*, 26(3), 345–355. <https://doi.org/10.1002/jid.2951>.
- Verloo, M. (2005). Displacement and empowerment: Reflections on the concept and practice of the Council of Europe approach to gender mainstreaming and gender equality. *Social Politics: International Studies in Gender, State & Society*, 12(3), 344–365. <https://doi.org/10.1093/sp/jxi019>.
- Zhao, J., Li, X., & Hou, C. (2025). Can climate finance bridge the gender gap in labor markets? Evidence from developing countries. *Climatic Change*, 178, Article 80. <https://doi.org/10.1007/s10584-025-03921-8>.