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## Intersectionality and Climate Change: A Review of the Literature between 2014 and 2023

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### Abstract:

*The last decade was characterized by an intensification of the debate on climate change, both in the public context and in the academic environment. The research on the potential physical impact of climate-related hazards became more sophisticated and methodologically complex. On the other hand, the literature on the societal impact of these processes expanded to incorporate different approaches, including the growing area of intersectionality and climate change studies, with roots in climate adaptation, critical climate justice, feminist literature, indigenous studies, and environmental policy, to name just a few.*

*The purpose of this paper is to explore the main topics highlighted in the field of intersectionality and climate change during the last ten years to underline the theoretical and methodological contribution of this field to the broader area of climate change research. We carried out a rapid literature review by building a database consisting mainly, but not entirely, of open-access papers published in English between 2014 and 2023. We pointed out the valuable insights provided by intersectionality studies in assessing the multiple facets of human vulnerability to climate change. We also emphasized the diversity of perspectives and the transition from predominantly conceptual approaches to qualitative research aimed to make an impact at the local level. The heterogeneity of approaches is beneficial in understanding the intersectionality and climate change nexus. However, good practice guides and methodological landmarks could support more scholars in incorporating the intersectionality lens in climate change research.*

**Keywords:** Intersectionality, climate change, human vulnerability, literature review

### 1. Introduction

Since its coining in the late 1980s (Crenshaw, 1989), the term 'intersectionality' has grown in popularity and has been used under different interpretations and definitions. Most of them have in common the idea of inequality as an outcome of the intersection of different social identities (e.g., race, gender, age, religion, sexuality, ethnicity, disability), power relations, and experiences (Hankivsky, 2014). Intersectionality is sometimes seen as an umbrella term that provides shelter to a large array of perspectives (Collins & Bilge, 2020).

Literature focusing on intersectionality and climate change nexus emerged in several research areas during the last decade, providing a conceptual and methodological framework for a comprehensive understanding of the multiple dimensions of human vulnerability to climate change.

Given the projected scenarios of climate change, their widespread potential impact on the natural environment and on human society, and the fact that vulnerable communities are disproportionately affected despite having the lowest contribution to the causes of climate change (IPCC, 2023a), the issues of inequality are closely intertwined with those of climate change mitigation. The Intergovernmental Panel on Climate Change's definition of vulnerability indirectly refers to this idea by stating that vulnerability encompasses sensitivity to harm and a lack of capacity to cope and adapt (IPCC, 2023b). When assessing social systems, the above-mentioned characteristics are inherently related to inequality and membership in one or several marginal or disadvantaged groups.

The purpose of our literature overview is to identify the conceptual frameworks used to connect intersectionality and climate change and to emphasize the range of methodologies applied to assess the influence of intersectionality on climate change vulnerability and adaptation. Currently, there are different conceptual approaches to the nexus between intersectionality and climate change, stemming from different research traditions, such as gender studies, rural studies, environmental policy, environmental justice, and vulnerability assessment. We aimed to determine if this heterogeneity is beneficial when it comes to establishing climate change adaptation strategies and, specifically, how it could affect planning and inclusive resource allocation at the local level.

We focused on the following key research questions:

- How is the relationship between intersectionality and climate change conceptualized?
- How is this relationship operationalized and assessed?
- At what temporal and spatial scale is the assessment conducted?
- What is the assessment's outcome regarding climate change adaptation?

## 2. Methodology

We conducted a rapid review of the literature (Grant & Booth, 2009) between June and August 2023 through four steps:

- Identification of the literature,
- Selection of the relevant material,
- Creation of a database, and
- Data analysis

Using the Google Scholar search engine, we identified peer-reviewed, open-access articles and working papers related to our keywords ("intersectionality and climate change"). We selected 23 literature materials (22 peer-reviewed articles, 1 working paper) considered relevant according to the review criteria, namely:

- Specifically targeting at least one dimension of the intersectionality and climate change nexus.
- Applying a methodological approach or proposing methodological steps in assessing climate change impact and/or adaptation through the lens of intersectionality.

We focused on the research work published in English from 2014 to August 2023. Most of the papers identified by keyword search were published within this period, following the article of Kaijser and Kronsells that proposed intersectionality as a critical thinking lens that can provide a deeper understanding of how the impact of climate change is influenced by the social-economic, cultural, and political processes (Kaijser & Kronsells, 2014). The database was created considering six variables: the origin of the conceptual framework, type of approach, focus, scale, outcome, and relevance of the outcome in terms of climate change vulnerability. It was not our intention to provide a comprehensive literature review but to underline the overall direction of the literature and the potential theoretical and methodological contributions of this emerging field to the broader area of climate change and climate adaptation research.

## 3. Results and Discussion

The contribution of each of the selected research works is summarized in table 1. We decided to use a chronological, tabular synthesis, rather than a narrative one, to emphasize the evolution of research topics and methodological approaches and better underline the thematic diversity of the research conducted during the studied period.

In terms of the conceptual framework, we identified a high number of theoretical perspectives and a tendency to use eclectic sources in conceptualizing the climate change and intersectionality nexus. Almost two-thirds of the literature materials in our sample had derived ideas from at least two theoretical fields. Considering only the main theoretical approach, the most frequently used were concepts derived from the fields of feminism, ecofeminism, and gender studies (9 papers), power relations (8 papers), and climate change vulnerability and adaptation (8 papers). Climate justice and social justice, rural and urban studies, indigenous studies, and environmental/ climate policy also provided valuable theoretical background. In broad lines, the methodological approach was theoretical in half of the considered papers (11 out of 23) and focused on empirical research in the other half (12 out of 23 literature materials). It is noteworthy that, even among theoretical papers, the need to develop a methodologically sound and comprehensive approach to the climate change and intersectionality nexus was not neglected. Thus, analytical frameworks or sets of questions aimed at identifying relevant intersections are among the outcomes of theoretical papers (Kaijser & Kronsell, 2014; Mikulewicz et al., 2023; Vinyeta et al., 2015; Walker et al., 2019).

Citation	Origin of the Conceptual Framework	Approach	Focus	Scale	Outcome	To Which Dimensions of Climate Change (CC) Vulnerability Is the Outcome Relevant?
Kaijser & Kronsell, 2014	Environmental policy Power relations	Theoretical/ conceptual	Climate equity. Intersectionality as a framework to understand multiple dimensions of climate change.	Not applicable	Developing three sets of questions to identify relevant intersections in particular cases.	Social, institutional, cultural, and psychological.
Osborne, 2015	Power relations Social justice	Theoretical/ conceptual	Intersectionality of factors such as race, ethnicity, class, gender, and sexuality. The impact of this combination on power, access to resources, and, indirectly, vulnerability.	Not applicable	Arguing that we need to consider multiple axes of difference and identity to understand vulnerability to climate change.	Physical exposure (urban planning), social vulnerability

Citation	Origin of the Conceptual Framework	Approach	Focus	Scale	Outcome	To Which Dimensions of Climate Change (CC) Vulnerability Is the Outcome Relevant?
Gaard, 2015	Ecofeminism Climate justice	Theoretical/ conceptual	CC and the first-world overconsumption as products of masculinist ideology.	Local, national, and global.	Feminist responses to climate change. Arguing for a more inclusive climate justice. Challenging the techno-science approaches to climate change.	Physical exposure, social vulnerability
Vinyeta et al., 2015	Ecofeminism Indigenous studies Colonialism and oppression	Theoretical/ conceptual	Gender as a factor that shapes indigenous peoples' experiences of CC in the United States. The unique vulnerabilities resulted from the overlapping of CC with the consequences of colonialism.	Local and regional (United States)	Developing a set of questions to be considered in assessing gendered vulnerabilities and resilience to CC.	Social, cultural. Physical exposure (disaster preparedness and post-disaster intervention)
Thompson-Hall et al., 2016	CC adaptation Rural studies Power relations	Theoretical/ conceptual Literature review	Intersectionality and CC adaptation in agrarian settings.	Local, regional (Global South)	Emphasizing the need to use intersectional approaches for a more nuanced understanding of CC vulnerability and adaptation.	Physical exposure, social, cultural, institutional.
Djoudi et al., 2016	CC adaptation Gender studies Power relations	Theoretical/ conceptual Literature review	"Victimization" discourse in CC studies. The need to include agency and emancipatory pathways in CC adaptation.	Local, regional, global.	Criticizing the focus on the most vulnerable groups without considering inequalities and power relations analysis.	Exposure, social, cultural, and institutional.
Ravera et al., 2016	Intersectional feminism	Case studies Qualitative research	Role of gender and its interactions with social, cultural, and economic factors in choosing CC adaptation strategies.	Local and regional (India)	Underlining the possibility of CC maladaptation and the possible reproduction of gender inequalities and bias in CC response.	Exposure, social, cultural.
Walker et al., 2019	Intersectional feminism Rural studies	Literature review Theoretical/ conceptual	Intersectionality in climate hazards research	Regional (Global North, rural areas)	Developing an analytical framework to guide empirical research on the social dimensions of climate hazards.	Physical exposure, social, cultural, institutional.
Gay-Antaki, 2020	Feminist geographies Climate policy	Qualitative research	Discourses on gender and climate change at institutional level (United Nations)	Global	Underscoring the practices that perpetuate injustices in climate policy.	Institutional

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Santos et al., 2020	Postcolonial feminism Transformative approach	Literature review Workshop report	Analyzing contemporary research on CC vulnerability in the Arctic regions.	Local, regional (Canadian Arctic)	Underlining the importance of transformative strategies in approaching CC vulnerability in the Arctic.	Social, cultural, institutional.
Lawson et al., 2020	Vulnerability to environmental change	Qualitative research	Perception of climate variability in women smallholder farmers	Local, regional (Ghana)	Highlighting the intra-gender differences that influence access to resources and adaptation options.	Social
Azong & Kelso, 2021	Rural studies Gender studies Entitlement theory	Qualitative research	Assessing the CC vulnerability of the female farmers.	Local, regional (Cameroon)	Gender, culture, and ethnicity interactions in shaping resilience to CC.	Cultural, social.
Ahmed & Eklund, 2021	Vulnerability to climate change	Qualitative research	The intersection of social, economic, and cultural identities with exposure to climate change.	Local, regional (Bangladesh)	Emphasizing how the socio-cultural norms and expectations cause the disproportionate exposure of women to natural hazards.	Physical exposure, social, cultural.
Versey, 2021	Psychology of Climate Change	Theoretical/conceptual	The disproportionate impact of CC on marginalized communities.	Not applicable	Arguing for incorporating intersectionality in climate-relevant interventions.	Social, institutional.
McArdle, 2021	Climate justice Climate urbanism	Theoretical	Marginalized groups in urban areas in relation to climate crisis.	Global North	Arguing for inclusive climate policies that are not reinforcing existing inequalities.	Social, institutional.
Garcia & Tschakert, 2022	Power relations Social justice Political ecology	Literature review Theoretical/conceptual	The inadequate conceptualization of inequalities to CC.	Not applicable	Endorsing more inclusive and experiential methodologies in the research of CC adaptation.	Social, institutional.
Johnson et al., 2022	Indigenous studies Vulnerability to climate change	Qualitative research	Divergent vulnerabilities and adaptive capacities in indigenous communities.	Individual, household (New Zealand)	Highlighting that power dynamics and subjectivities are shaping CC impact and adaptation.	Social, cultural, institutional.
Ranjitkar & Haukanes, 2022	Power relations Gender studies	Qualitative research	Women participation in CC adaptation programs.	Local, individual (Nepal)	Underlining how intra-gender inequalities caused by caste and ethnicity are influencing access to adaptation programs.	Social, cultural.

Citation	Origin of the Conceptual Framework	Approach	Focus	Scale	Outcome	To Which Dimensions of Climate Change (CC) Vulnerability Is the Outcome Relevant?
Assaduz zaman et al., 2023	Vulnerability to environmental change	Participatory research	The impact of CC meditated through the interaction of gender and ethnicity.	Local, regional (Bangladesh)	Emphasizing different perceptions of CC and CC adaptation strategies.	Physical exposure, social, cultural.
Mikulewicz et al., 2023	Critical climate justice	Theoretical/conceptual	Theoretical and methodological links between climate justice research and intersectionality research.	Not applicable	Developing a set of potential questions aimed at addressing CC in a more equitable way and improving CC scholarship.	Physical exposure, social, cultural, institutional.
Marty et al., 2023	Critical adaptation Theory of access	Qualitative research	Social differentiation, pastoral diversification, and reshaping of livelihood practices.	Local, regional (Kenya)	Insights on inclusion and exclusion processes influencing access to resources.	Physical exposure, social, cultural.
Phuong et al., 2023	Livelihood vulnerability/resilience to CC	Qualitative research	Disparities among different ethnic and gender groups in terms of household resilience to CC.	Household (Vietnam)	Emphasizing recommended pathways for an intersectional approach in practical policies aimed at increasing CC resilience.	Physical exposure, social, cultural, institutional.
Ngu et al., 2023	Livelihood vulnerability/resilience to CC	Quantitative research	Using the Livelihood Vulnerability Index to assess household vulnerability to CC.	Household (Vietnam)	Mapping household vulnerability to CC in an urban area.	Physical exposure, social, cultural, institutional.

*Table 1: Overview of Intersectionality and Climate Change (CC) Literature 2014-2023: Conceptual Approach, Focus and Outcomes*

The empirical studies are primarily qualitative, including a variety of methods and techniques, such as case studies, semi-structured interviews, focus group discussions, field surveys, key informant interviews, group interviews, participatory rural appraisal, and the life history approach. Only two papers incorporated quantitative research using data collected through household surveys to assess indexes (i.e., the resilience index of the households, developed by Phuong et al., 2023, and the livelihood vulnerability index, computed and mapped by Ngu et al., 2023).

It is noteworthy that the reviewed papers used more than one qualitative research method, resulting in a high diversity of empirical approaches. Also, it is important to underline that there is no defined framework for intersectional research, which determined authors in some cases to develop their own methodological framework (Johnson et al., 2022).

The scale of the research varies from global to regional, local, and individual, the latter being extremely useful in highlighting the differential vulnerabilities to climate change and the subtle nuances in adaptative capacity created by various intersections.

The range of topics and outcomes is also significant. However, the common objective could be described as diverging from the traditional focus on the most vulnerable groups, i.e., the "vulnerability Olympics" (Djoudi et al., 2016). Instead, the authors are working towards integrating inequalities, power dynamics, and an inclusive approach in the study of vulnerability and adaptation to global change. Thus, their research is relevant to several, if not all, of the multiple dimensions of vulnerability to climate change.

#### 4. Conclusion

During the last decade, the intersectionality and climate change nexus were explored using a multitude of theoretical perspectives and a diversity of qualitative and quantitative methods. The versatility of these approaches is reflected in the comprehensive and nuanced analyses and their outcomes. In this respect, the conceptual and methodological heterogeneity of this field is deemed beneficial. It is expected that a more inclusive vulnerability

assessment would translate into a more inclusive resource allocation and tailored adaptation strategies in the local communities facing climate change.

The investigation of the intersectionality and climate change nexus is inherently context-specific; thus, a unified research framework is difficult to reach. At the same time, the complex issues of assessing vulnerability and adaptation to climate change through the intersectional lens may be daunting to researchers without a background in multiple theoretical fields. Thus, a good practice guide and methodological landmarks may represent the first steps in supporting more scholars to incorporate intersectionality in their work and in their recommendations for policymakers.

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