ENVIRONMENTAL CHALLENGES AND REPRODUCTIVE DECISIONS: A QUALITATIVE STUDY BASED ON FOCUS GROUPS

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ABSTRACT

This study explores how environmental challenges shape reproductive intentions and family-related decision-making in Serbia. Based on five focus groups conducted between November 2025 and January 2026 in environmentally burdened municipalities, the research examines how individuals interpret ecological risks and how these interpretations influence their perceptions of health, safety, and long-term family planning. Participants described severe and worsening environmental conditions, particularly air pollution, which they linked to health problems in children and the need for everyday adaptive strategies. Environmental concerns affected reproductive decisions indirectly, intersecting with economic insecurity, institutional distrust, and mobility strategies aimed at protecting family well-being. While few participants attributed their reproductive choices solely to environmental factors, many viewed pollution as part of a broader context of uncertainty. These qualitative insights complement emerging quantitative evidence on climate-related fertility impacts in Serbia, underscoring the need for integrated policies that connect environmental protection with reproductive health and social support systems.

Keywords: Environmental risks; Reproductive decisions; Air pollution; Perceived health threats; Mobility strategies.

INTRODUCTION

Environmental degradation has been widely recognized as a factor shaping reproductive health and demographic behavior. Environmental risks are increasingly understood as part of broader global syndemics that link climate change, pollution, and population health [7]. Numerous studies demonstrate that exposure to air pollution and other environmental hazards is associated with adverse reproductive outcomes and increased health risks for infants and children [1] [5]. Beyond biological effects, environmental uncertainty increasingly influences how individuals perceive safety, risk, and long-term family planning [9] [3]. Recent research on eco-anxiety shows that environmental concerns have become part of the emotional and moral landscape of reproductive decision-making, particularly among younger generations [2][6]. While the health implications of pollution are well documented, less is known about how individuals interpret these risks and how such interpretations shape reproductive decisions. This study contributes to this growing body of literature by examining how residents of five environmentally burdened Serbian municipalities interpret ecological risks and how these interpretations shape their reproductive intentions and everyday family practices. This study examines subjective experiences of environmental challenges and their perceived influence on family planning. The aim is not to quantify effects, but to understand how

people talk about and make sense of the relationship between environmental conditions and reproductive choices.
As this paper represents the first publication based on the recently completed fieldwork, its aim is to provide an initial overview of key perceptions and emerging patterns identified in the focus groups. The analysis presented here offers foundational insights into how individuals interpret environmental risks in relation to reproductive decisions, while a more comprehensive and systematic examination of the full dataset will be developed in forthcoming project outputs within POPENVIROS.

METHODOLOGY

The study is based on qualitative data collected through 5 focus groups conducted between November 2025 and January 2026 in Serbia. A total of 30 participants took part in the discussions. The groups were intentionally composed to include individuals of different genders, ages, educational backgrounds, and residential settings (urban/rural). Participants were between 20 and approximately 37–38 years old, representing a life stage in which individuals typically consider starting or expanding a family. This age structure was essential for capturing perceptions of environmental risks in relation to reproductive intentions.
Focus groups were conducted in five locations in Serbia, selected due to their distinct environmental profiles and relevance for understanding local variation in exposure and perception:

- Belgrade - an urban environment with high levels of traffic-related and industrial pollution
- Pančevo - an industrial center with long-standing air quality challenges
- Smederevo - a city located near major industrial facilities
- Valjevo - a city with chronically high concentrations of particulate matter and severe winter pollution episodes
- Kosjerić - a smaller community with pronounced local sources of air pollution

The discussions explored participants' perceptions of environmental quality, everyday coping strategies, and reproductive considerations. A thematic approach was used to identify recurring patterns across locations. Given the exploratory nature of the study, the analysis focuses on broad thematic insights rather than detailed coding structures, which will be elaborated in a forthcoming journal article.

RESULTS

Perceived severity of environmental problems

Across all sites, participants described environmental conditions as severe and worsening. Air pollution, especially during winter, was the most salient issue. In Valjevo and Kosjerić, individual heating and topography were central concerns; in Smederevo and Pančevo, industrial emissions dominated local narratives. Many participants emphasized visible pollution, unpleasant odors, and the inability to spend time outdoors.
As one participant noted: "*When I come home, all my clothes smell like smoke*."

Health concerns and everyday adaptations

Parents frequently linked pollution to respiratory illnesses, allergies, and skin problems among children. Many households rely on air purifiers, limit outdoor activities, or travel to rural areas on weekends to "breathe clean air." These adaptations reflect a privatization of environmental risk management, where individuals compensate for institutional shortcomings.

One parent explained: "*As soon as my child comes inside after being outdoors, the coughing starts and lasts for half an hour*."

Environmental concerns and reproductive decisions

Environmental factors influenced reproductive intentions in nuanced ways:

- Some participants delayed or reconsidered having additional children due to fears of pregnancy complications or long-term health effects.
- Others emphasized the importance of relocating to cleaner areas before expanding their families.
- For a minority, environmental degradation contributed to decisions not to have children at all.
- Many participants stressed that environmental concerns intersect with economic and social insecurities, making it difficult to isolate their influence.

As one participant stated: "*I would love to have a third child, but honestly - with this air, I don't dare.*"

Mobility as a protective strategy

Residential mobility emerged as a key response. Families in Smederevo and Valjevo described moving, or planning to move, to less polluted neighborhoods, rural areas, or entirely different municipalities. Migration was often framed as a prerequisite for raising children in healthier conditions.

A participant from Smederevo explained: "*We're building a house in the countryside, on the side of town farthest from the steel plant*."

Distrust in institutions

A pervasive theme across all groups was distrust in local and national institutions. Participants expressed frustration with inadequate environmental monitoring, weak enforcement of regulations, and poor health services. This distrust amplified feelings of vulnerability and shaped perceptions of reproductive risk.

As one participant put it: "*Nothing is being done here - no plan, no will, no trus*t."

CONCLUSION

The findings suggest that environmental degradation influences reproductive decisions indirectly, through its impact on health perceptions, daily routines, and trust in institutions. Rather than acting as a single decisive factor, environmental concerns accumulate alongside economic and social uncertainties, contributing to hesitation, selective mobility, and adaptive parenting practices. The study also highlights the emotional dimension of environmental exposure, fear, frustration, and resignation, which

may shape long-term demographic behavior in ways not captured by quantitative indicators.

These results build on previous research in Serbia showing that climate and environmental changes affect demographic processes and population behavior patterns, including migration, health, and reproductive decisions, as confirmed by recent studies analyzing regional specificities and adaptive responses to environmental stressors [8]. These qualitative insights complement recent quantitative evidence from Serbia showing that climatic stressors can have measurable demographic effects. A recent study analyzing nearly 382,000 births across 25 districts found that exposure to hot days (average temperature >25 °C) leads to a significant decline in birth rates 9–10 months later, followed by a partial rebound [4]. This research demonstrates that environmental conditions influence fertility not only through physiological pathways but also through broader socio-climatic pressures that shape perceptions of security and future planning. Our findings add to this evidence by showing how individuals interpret environmental risks in their everyday lives and how these interpretations inform reproductive hesitation, mobility strategies, and family-building decisions.

Environmental challenges in Serbia's polluted municipalities therefore shape reproductive intentions through complex pathways involving health concerns, institutional distrust, and adaptive strategies. While few participants attributed their reproductive decisions solely to environmental factors, many described pollution as an important part of a broader context of insecurity. Taken together with emerging demographic evidence on climate-related fertility impacts, these findings underscore the need for policies that integrate environmental protection with reproductive health and social support systems. Improving environmental conditions may not only enhance public health but also create a more secure environment for family formation.

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