



Climate Risk Economics: Understanding the Economic Costs of a Warming World

Dr. Samuel O. Bennett*

Department of Environmental Economics, Northshore Institute, Canada

*Corresponding author: Dr. Samuel O. Bennett, Department of Environmental Economics, Northshore Institute, Canada, Email: s.bennett@northshore.ca

Citation: Samuel OB (2025) Climate Risk Economics: Understanding the Economic Costs of a Warming World. Res J Econ 8: 192

Received: 01-May-2025, Manuscript No. rje-26-184060; **Editor assigned:** 4-May-2025, Pre-QC No. rje-26-184060 (PQ); **Reviewed:** 19-May-2025, QC No. rje-26-184060; **Revised:** 26-May-2025, Manuscript No. rje-26-184060 (R); **Published:** 31-May-2025, DOI: 10.4172/rje.1000192

Introduction

Climate change is no longer only an environmental concern; it has become a central economic challenge. Rising temperatures, extreme weather events, and long-term ecological shifts pose significant risks to economic stability, growth, and development. Climate risk economics is a field that studies how climate-related risks affect economic systems and how these risks can be measured, managed, and mitigated. By integrating climate science with economic analysis, it provides a framework for understanding the financial consequences of climate change and guiding effective policy responses [1,2].

Discussion

Climate risks are commonly divided into physical risks and transition risks. Physical risks arise from the direct impacts of climate change, such as floods, droughts, heatwaves, and sea-level rise. These events can damage infrastructure, reduce agricultural productivity, disrupt supply chains, and increase health-related costs. Over time, repeated climate shocks can lower productivity and strain public finances, particularly in vulnerable and low-income regions [3,4].

Transition risks, on the other hand, stem from the shift toward a low-carbon economy. Policies such as carbon pricing, environmental regulations, and technological innovation can alter asset values and business models. For example, fossil fuel assets may lose value as economies transition to renewable energy, creating financial risks for firms, investors, and financial institutions. Climate risk economics analyzes how these adjustments affect employment, investment, and long-term growth.

A key challenge in climate risk economics is uncertainty. Climate impacts unfold over long time horizons and involve complex feedback loops, making them difficult to model precisely. Economists use scenario analysis, integrated assessment models, and stress testing to evaluate potential outcomes under different climate pathways. These tools help policymakers and financial institutions assess exposure to climate risks and design strategies to enhance resilience [5].

Another important dimension is inequality. Climate risks are not evenly distributed: poorer households and countries often face greater exposure and have fewer resources to adapt. Without targeted policies, climate change can exacerbate existing economic and social disparities. Climate risk economics therefore emphasizes the importance of adaptation investment, social protection, and international climate finance.

Conclusion

Climate risk economics highlights the deep connections between climate change and economic performance. By identifying and quantifying climate-related risks, it supports more informed decision-making by governments, businesses, and financial markets. As climate impacts intensify, incorporating climate risk into economic planning is essential for promoting sustainable growth, reducing inequality, and safeguarding long-term economic stability.

References

1. Abbo C, Okello ES, Musisi S, Waako P, Ekblad S (2012) Naturalistic outcome of treatment of psychosis by traditional healers in Jinja and Iganga districts, Eastern Uganda—a 3-and 6 months follow up. *International Journal of Mental Health Systems* 6: 1-11.
2. Adewuya A, Makanjuola R (2009) Preferred treatment for mental illness among Southwestern Nigerians. *Psychiatric Services* 60:121-124.
3. Ahmed IM, Bremer JJ, Magzoub MM, Nouri AM (1999) Characteristics of visitors to traditional healers in central Sudan. *EMHJ-Eastern Mediterranean Health Journal* 5:79-85.
4. Morsy AS, Soltan YA, Sallam SMA, Kreuzer M, Alencar SM, et al. (2015) Comparison of the in vitro efficiency of supplementary bee propolis extracts of different origin in enhancing the ruminal degradability of organic matter and mitigating the formation of methane. *Animal Feed Science and Technology* 199: 51–60.
5. Soltan YA, Patra AK (2020) Bee propolis as a natural feed additive: Bioactive compounds and effects on ruminal fermentation pattern as well as productivity of ruminants. *Indian Journal of Animal Health* 59: 50–61.