

Literature on natural disasters and climate change



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Natural disasters and global climate change

Introduction

The research topic is natural disasters and global climate change. Changes in climate not only affect average temperatures, but also extreme temperatures, increasing the likelihood of weather-related natural disasters. If global climate change causes the global average temperature to rise, there will be less cold weather, and a greater probability of hot and record hot weather. An increase in temperature variability will extend the extremes of temperature, both cold and hot. It is a globalization problem happened in all over the world. The global climate change and natural disasters have impacts on natural resources and the environment. The following three articles will give a more detail understanding of the natural disasters and global climate change.

Article One

Article: Climate change and natural disasters - integrating science and practice to protect health

Authors: Rainer Sauerborn and Kristie Ebi

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Reference: Sauerborn, R., & Ebi, K. (2012, December 17). Climate change and natural disasters: integrating science and practice to protect health.

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Objectives of the authors: this article focuses on the hydro-meteorological disasters, and takes the report of the Intergovernmental Panel on Climate Change (IPCC) as a start point to explore on ' Health and Health Systems Impact of Natural Disasters'. Based on Managing the Risks of Extreme Events and Disaster to Advance Climate Change Adaptation (SREX) and developing research to answer questions: if there are some types of extreme events become more frequent, severe, and longer in the past decades; the relative contribution of climate change to the various types of extreme events; how can the health community coordinate and cooperate with the climate and development communities to protect health during and after natural disasters (Sauerborn & Ebi, 2012). And examine, to which extent climate change increase their frequency and intensity.

Methods & Theory: Based on the IPCC report, and review of IPCC-projections of climate-change related extreme weather events and related literature on health effects. The authors present the result that climate change is likely to increase the frequency, intensity, duration, and spatial distribution of a range of extreme weather events in the next decades.

Summary of the article: In the article, authors start by clarify ' natural disaster' and lay out the conceptual framework. Sauerborn and Ebi state that human activities influence the frequency, intensity, duration, and spatial extent of some extreme weather and climate events, only the geophysical disasters have not been influenced by human action (Sauerborn & Ebi, 2012). Authors look into the contribution of climate change to hydro-meteorological and climatological disasters and the health impacts of these events, and explore the reduction of climate change on both shorter and

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longer time scale. Sauerborn and Ebi also found the impacts of similar strength events in different regions have different consequences (Sauerborn & Ebi, 2012). After answer the three questions above, the authors made a conclusion that there is a need for strengthened collaboration between climate scientists, the health researchers and policy-makers as well as the disaster community to jointly develop adaptation strategies to protect human.

Overall reaction: This article has a clear focus on the contribution of climate change to hydro-meteorological disaster, and gives concise information by answer some key point questions. Based on many reliable resources to explore the special volume, explain with clear tables, make the theory easily understand.

Article Two

Article: Climate-related natural disasters, economic growth, and armed civil conflict

Authors: Drago Bergholt and Päivi Lujala

Search Engine: list of references

Search Terms: climate-related natural disasters

Reference: Bergholt D, Lujala P. (2012). Climate-related natural disasters, economic growth, and armed civil conflict. *Journal of Peace Research*. 49 (1), 147-162.

Objectives of the authors: In this article, authors highlight the climate change may be the most serious challenge we need faced in the future and explore the consequences of climate-induced natural disasters on economic growth with the econometric methods, authors also study on the impact of these disasters related to the onset of armed civil on economic growth by analysis the climate-related disasters affect economic growth and armed civil conflicts during the period 1980-2007(Bergholt &Lujala, 2012).

Methods &Theory: The article begins by showing some example of natural disasters had happened, and these impacts for people and countries development. And the authors also state ' global warming is expected to lead to an increase in both the severity and the frequency of climate-related disasters'(Bergholt &Lujala, 2012). The authors discuss the effect of climate-related disasters at the economic aspect with recent research. Then the authors present their hypotheses-' H1: Climate-related disasters have a negative effect on economic growth; H2: negative income growth shocks caused by climate-related disasters increase the likelihood of armed civil conflict onset' (Bergholt &Lujala, 2012). Using Econometric methods with data help analysis the hypotheses, and with consideration on the variables, such as economic growth and armed civil conflict, only use the data during the period 1980-2007. The authors assess the results and found that ' climate-related natural disasters have a negative effect on growth and that the impact is considerable' (Bergholt &Lujala, 2012). This has two important implications: ' if climate change increases the frequency or makes weather-related natural disasters more severe, it is an economic concern for countries susceptible to these types of hazards' (Bergholt &Lujala, 2012).

Summary of the article: The article looks at climate change and natural disaster from the economic perspective, the main objective of this study is to investigate social impacts caused by different climate-related natural disasters. Discover the effects of hydro meteorological, climatological and geophysical events on economic growth in the short run. Article provides quantitative evidence of a negative causal effect on short-run economic growth from the number of people affected by climatic disasters. And prove the climate-related disasters change important factors for production and income, and reduce overall economic performance. Moreover, different from the studies of Collier & Hoeffler (2004) and Miguel, Satyanath & Sergenti (2004), authors found when the economic growth impact by the climatic factors, it does not systematically relate to armed civil conflict onset.

Overall reaction: This article provides many data about the climate disasters and economic growth, and proves the climate-related disasters impact for the economic performance. However, after all the data collected, there is no evidence to prove the climate-related disasters lead to more armed conflicts.

Article Three

Chapter: Climate change adaptation and disaster risk reduction: Key challenges and ways forward

Book: Climate Change Adaptation and Disaster Risk Reduction: An Asian Perspective

Editors: Juan M. Pulhin, Rajib Shaw and Joy Jacqueline Pereira

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Search Terms: Climate change global natural disasters

Reference: <http://site.ebrary.com.ezproxy.lincoln.ac.nz/lib/lincoln/docDetail.action?docID=10445342>

Objectives of the authors: This book introduces the climate change adaptation and disaster risk reduction in an Asian perspective. It focuses on community-based risk management, urban environmental management, human security, water community, risk communication, climate change adaptation, climate disaster resilience and community-based practices. The book connects academic research to the real examples, strengthen the relations between the environment, disaster and the community. It also provides specific guides to the demanding academic analysis with community practices and evidences. This chapter focuses on the key challenges and ways forward of the climate change adaptation and disaster risk reduction.

Methods & Theory: This chapter claims that 'Climate change is one of the major challenges confronting human society in the 21st century' (Ericksen & O'Brein, 2007; Adger, Lorenzoni, & O'Brien, 2009). And with mounting evidence, without effective address, the region's sustainable development and poverty-reduction efforts would be seriously frustrate by climate change.

Summary of the chapter: Climate change is one of the major challenges confronting human society in the 21st century (Ericksen & O'Brein, 2007; Adger, Lorenzoni, & O'Brien, 2009). Due to the climate change, many parts of Asia have been through serious natural disasters. It is also alter water shortages in many areas, which block the agricultural production, and

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threatening food security and energy supply from hydroelectric source. A number of issues and challenges have been identified and categorized into three general types: 1) differences in functional, spatial, and temporal scale; 2) mismatched regarding norms such as legislative, cultural, and behavioral norms; 3) knowledge mismatches. There are eight major strategies included to address the different issues and challenges: 1) integration of CCA and DRR concerns at various levels from national to local; 2) strong governance system at different levels; 3) improve information system and knowledge management; 4) apply integrated assessment methods and tools; 5) ensure natural resources sustainability and resource rights; 6) build local resilience and reduce vulnerability; 7) advance innovative education and research and development initiatives; 8) secure adequate funding support.

Overall reaction: authors analysis the key challenges and ways forward in the Climate Change Adaptation and Disaster Risk Reduction. Explain and example every single point, detail but not intricacies.

Conclusion

Climate change is happening, it is one of the biggest challenges to development. The human activities influence the climate change, the climate change causes natural disasters. The most common one is global warming, people always link climate change with global warming, however, global warming is not the only consequence of the climate change. From the selected articles, we can find that climate change will also increase the frequency of extreme weather events occur. From the long-term trend, it will have a local climate change in each region. Indeed, many of the world's

extreme weather happened in these years, some astronomy, as well as El Nino, ocean circulation weather these have occurred. There are also many events in New Zealand, like the strong breeze, heavy snowfall. For the climate change adaptation and disaster risk reduction, we should prepare the most fundamental preparation, reduce the damage made by human activities. Moreover, when there are some special natural disaster that cannot reduce or block by human behavior, we need to understand how to response the emergency.