Exploring the Relationship between Climatic Variability, Inequality and Migration from a Class Perspective: Evidence from Minqin County, Western China

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DEDICATION

I dedicate this work to my supervisor, Professor Graeme Hugo,
who passed away four months before the submission
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ABSTRACT

Climate change is an unequal process in which vulnerable groups are always disproportionately affected and easily further impoverished and marginalized. Inequality has been identified as an important factor shaping people’s vulnerability to climate change, which determines their experience of climate change impacts and the subsequent adaptation strategies. Human migration, as an important adaptation to climate change, is significantly influenced by inequality. Unequal distribution of resources allows decisions and consequences of migration to vary greatly between nations, communities, and even households and individuals. Despite acknowledging the significant role that inequality plays in the climate change-migration nexus, to date there has been few empirical studies that model the relationship between climate change, inequality and migration, especially in a non-disaster scenario at a sub-national level.

This study aims to close the research gap by providing a nuanced understanding of how different tiers and dimensions of inequality influence households’ experience of impacts of climatic variability, a fundamental aspect of climate change, and consequently shape their migration behaviours and intentions. This is achieved by focusing on a slow onset environmental degradation scenario in a sub-national community, Minqin county in western China. To systematically and comprehensively understand inequality, class, a major organising concept to describe inequality and explain human behaviour, is used to conceptualise inequality in two tiers (class structure of the community and class position of the household) and five dimensions (economic, social, cultural, reputational and political status).

Underpinned by a mixed methods approach, qualitative and quantitative data were collected from primary and secondary sources, such as a household survey, in-depth interviews with key informants, census, yearbooks and policy documents. These data enabled this study to carry out descriptive, regression and thematic analysis. A two-stage decision making process of migration has been conceptualised in the framework based upon the Theory of Planned Behaviour. Accordingly, a two-stage econometric regression approach is employed to test two major hypotheses: (1) In what ways and to what extent multiple inequalities shape households’ experience of climatic variability impacts? (2) How multiple inequalities combine with the climatic variability impacts to differentiate households’ migration patterns.
in the past and likely to in the future? The regression model is based on primary data collected from 445 households in Minqin county of western China in 2012.

The results show that the groups that were particularly vulnerable to climatic variability impacts include those living in a community with an unequal distribution of income and having low economic, social and political status in the community. The influence of climatic variability impacts and class on migration is mixed. The negative impact of climatic variability on crops and land drives migration, while the negative impact on water tends to constrain migration, which suggests that it is the specific impacts experienced by a household, rather than climatic variability per se, that determines the migration decision. Households with higher economic, social and cultural status show a stronger propensity to engage in, or plan for, migration, especially that which requires substantial resources (e.g., long-distance and entire household migration), whereas those with higher reputational and political status are more likely to stay. Although multiple inequalities shaped by class are found to be significant in influencing climatic variability impacts and migration, results of policy analysis suggest that current migration and adaptation policies largely concentrate on economic inequality and do not provide sufficient institutional and financial support to address inequality.

The study recommends that local government identify the characteristics and needs of the groups that are particularly vulnerable to climate change. The needs of these groups should be integrated into cohesive development programs which promote both local development and human migration. Specific arrangements of instruments, institutions and finance should be made in these programs to ensure that multi-faceted inequality is addressed, allowing vulnerable groups in the community to access more diverse and proactive adaptive strategies.
DECLARATION

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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Signed: _____________________________            Date: ____________________________
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ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>APMRC</td>
<td>Australian Population and Migration Research Centre (the University of Adelaide)</td>
</tr>
<tr>
<td>ARC</td>
<td>Australian Research Council</td>
</tr>
<tr>
<td>BBC</td>
<td>British Broadcasting Corporation</td>
</tr>
<tr>
<td>CASMIN</td>
<td>Comparative Analysis of Social Mobility in Industrial Societies</td>
</tr>
<tr>
<td>CCPCC</td>
<td>Central Committee of Communist Party of China</td>
</tr>
<tr>
<td>CNKI</td>
<td>China National Knowledge Infrastructure</td>
</tr>
<tr>
<td>CPAD</td>
<td>The State Council Leading Group Office of Poverty Alleviation and Development (China)</td>
</tr>
<tr>
<td>CPC</td>
<td>Communist Party of China</td>
</tr>
<tr>
<td>CPG</td>
<td>the Central People's Government (China)</td>
</tr>
<tr>
<td>DOEGP</td>
<td>Department of Education, Gansu Province</td>
</tr>
<tr>
<td>ECCNARCC</td>
<td>Editorial Commission of China’s National Assessment Report on Climate Change</td>
</tr>
<tr>
<td>EDPs</td>
<td>Environmentally Displaced Persons</td>
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<td>EFZs</td>
<td>Ecological Fragile Zones</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GOMCG</td>
<td>General Office of Minqin County Government</td>
</tr>
<tr>
<td>GOPGGP</td>
<td>General Office of People's Government of Gansu Province</td>
</tr>
<tr>
<td>GOSC</td>
<td>General Office of State Council (China)</td>
</tr>
<tr>
<td>HH</td>
<td>Household</td>
</tr>
<tr>
<td>HRS</td>
<td>Household Responsibility System</td>
</tr>
<tr>
<td>IMARG</td>
<td>Inner Mongolia Autonomous Region Government</td>
</tr>
<tr>
<td>IMO</td>
<td>International Organisation for Migration</td>
</tr>
<tr>
<td>IPCC</td>
<td>the International Panel on Climate Change</td>
</tr>
<tr>
<td>ISDR</td>
<td>International Strategy for Disaster Reduction (the United Nations)</td>
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<tr>
<td>MARC</td>
<td>Model of Migration Adaptation to Rainfall Change</td>
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<tr>
<td>MCG</td>
<td>Minqin County Government</td>
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<tr>
<td>MCPC</td>
<td>Minqin County Party Committee</td>
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<tr>
<td>MEP</td>
<td>Ministry of Environmental Protection (China)</td>
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<td>MLogit</td>
<td>Multinominal Logit</td>
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<tr>
<td>MLR</td>
<td>Ministry of Land and Resources (China)</td>
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<td>MOE</td>
<td>Ministry of Education (China)</td>
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<tr>
<td>MWR</td>
<td>Ministry of Water Resources (China)</td>
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<td>NBS</td>
<td>National Bureau of Statistics (China)</td>
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<tr>
<td>NDRC</td>
<td>National Development and Reform Commission</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<tr>
<td>OLS</td>
<td>Ordinary Least Squares</td>
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<tr>
<td>PGGP</td>
<td>People's Government of Gansu Province</td>
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<tr>
<td>PPS</td>
<td>Probability Proportionate to Size</td>
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<tr>
<td>SC</td>
<td>State Council (China)</td>
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<tr>
<td>SCGPC</td>
<td>Standing Committee of Gansu People's Congress</td>
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<tr>
<td>SCOLGWRD</td>
<td>the State Council Office of the Leading Group for Western Region Development</td>
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<tr>
<td>SEAC</td>
<td>State Ethnic Affairs Commission (China)</td>
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<td>SPG</td>
<td>Shaanxi Province Government</td>
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<td>SUR</td>
<td>Seemingly Unrelated Regression</td>
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<td>TPA</td>
<td>the Theory of Planned Behaviour</td>
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<tr>
<td>UNEP</td>
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<td>UNESCAP</td>
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<td>UNFPA</td>
<td>the United Nations Population Fund</td>
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<td>UNHCR</td>
<td>United Nations High Commissioner for Refugees</td>
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<td>WCDLO</td>
<td>West China Development Leadership Office of the State Council of China</td>
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<tr>
<td>WCG</td>
<td>Wuwei City Government</td>
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<tr>
<td>WCPC</td>
<td>Wuwei City Party Committee</td>
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