

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

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Submitted for the Degree of Doctor of Philosophy

June 2015

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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ACKNOWLEDGEMENTS

Thank God for being my guide, strength and the source of wisdom

Foremost, I would like to express my sincere gratitude to my supervisory panel. My principle supervisor Professor Graeme Hugo offered extraordinary supervision of my research with his immense knowledge, inspiratory advice, enthusiasm and patience. He always showed faith in my academic ability and shared his own life experience with me, making me believe that I can do good research and be an excellent mother at the same time. Graeme, without your support, it would not have been possible for me to come this far in this journey. You live in my heart. I am also very thankful to Dr Yan Tan for assisting the scholarship application, providing every necessary resource for the fieldwork, and offering constant guidance on doing literature review, constructing conceptual framework, designing and conducting fieldwork, and writing up thesis and journal articles. Yan, you are an invaluable supervisor and a lifetime friend. My sincere thanks also go to Dr Dianne Rudd for her prompt and valuable feedback on my thesis. Dianne took the role of Graeme after his passing to supervise more than a dozen of PhD students, but she still read, and commented on, each sentence of my thesis, enabling me to finalize the thesis in such a stressful time. I cannot express how much I am grateful to you, Di.

I would like to thank the University of Adelaide for giving me the opportunity to undertake the program by providing a Divisional Scholarship. I also wish to thank the Department of Geography, Environment and Population for providing all the facilities I needed and the financial support for the fieldwork. Thanks also go to the ARC project titled '*Climate change and migration in China: Theoretical, empirical and policy dimensions*' (DP110105522) for providing financial support and logistics arrangements for the fieldwork.

I am thankful to the College of Earth and Environmental Sciences of Lanzhou University for assembling an excellent survey team and providing logistical assistance for the fieldwork in China. Special thanks go to my PhD colleague Leon, who shared the ups and downs of conducting fieldwork with me. I would like to thank Professor Andrew Watson for his inspiratory advice on class structure of Chinese society. Thanks also go to Dr Arusyak Sevoyan for sharing with me her knowledge on social inequality.

Thanks to my friends in the Department of Geography, Environment and Population of the University of Adelaide, Girmachew, Christina, Caren, Jasmine, Majida, Patricia, Balam, Leon, Lingling, Cathy, Rhiannon, Romy, Nichole and Ash for your friendship, encouragements, inspiratory discussions, and help in endnotes. Thanks also go to Janet, Shimira, Ryan, Sarah, Sharon, Maria and Jinny for their excellent administrative support.

Special thanks go to my editor, Dr Jane Edwards, who is a research staff in the School of Commerce of the University of South Australia, as well as a registered editor. She proofread the thesis, corrected the grammar mistakes and provided advice on formatting.

Special thanks also go to the two anonymous examiners of the thesis, who provided insightful ideas to improve the thesis.

I wish to thank my father, Nianlin Liu, a man always believes me and encourages me to pursue my dream. Thanks to my devoted mum, Yuhua Chen, for your endless love, trust and support. Thanks to my parents in law, Hongwu Zuo and Guirong Huang, for looking after the kids. To my little girls, Zoe and Chloe, you are my sunshine, flower and candy, getting me through the blues and bitterness. Being your mother motivated me to complete the journey because I simply wanted to show my children how to achieve a goal despite all difficulties. Last but not the least, to my husband Alec, you make me a better person, and thank you for proofreading some of the chapters and teaching me to use Stata for data analysis.

ABBREVAITONS AND ACRONYMS

APMRC	Australian Population and Migration Research Centre (the University of Adelaide)
ARC	Australian Research Council
BBC	British Broadcasting Corporation
CASMIN	Comparative Analysis of Social Mobility in Industrial Societies
CCPCC	Central Committee of Communist Party of China
CNKI	China National Knowledge Infrastructure
CPAD	The State Council Leading Group Office of Poverty Alleviation and Development (China)
CPC	Communist Party of China
CPG	the Central People's Government (China)
DOEGP	Department of Education, Gansu Province
ECCNARCC	Editorial Commission of China's National Assessment Report on Climate Change
EDPs	Environmentally Displaced Persons
EFZs	Ecological Fragile Zones
GDP	Gross Domestic Product
GOMCG	General Office of Minqin County Government
GOPGGP	General Office of People's Government of Gansu Province
GOSC	General Office of State Council (China)
HH	Household
HRS	Household Responsibility System
IMARG	Inner Mongolia Autonomous Region Government
IMO	International Organisation for Migration
IPCC	the International Panel on Climate Change
ISDR	International Strategy for Disaster Reduction (the United Nations)
MARC	Model of Migration Adaptation to Rainfall Change
MCG	Minqin County Government
MCPC	Minqin County Party Committee
MEP	Ministry of Environmental Protection (China)
MLogit	Multinomial Logit
MLR	Ministry of Land and Resources (China)
MOE	Ministry of Education (China)

MWR	Ministry of Water Resources (China)
NBS	National Bureau of Statistics (China)
NDRC	National Development and Reform Commission
NGO	Non-Governmental Organisation
OLS	Ordinary Least Squares
PGGP	People's Government of Gansu Province
PPS	Probability Proportionate to Size
SC	State Council (China)
SCGPC	Standing Committee of Gansu People's Congress
SCOLGWRD	the State Council Office of the Leading Group for Western Region Development
SEAC	State Ethnic Affairs Commission (China)
SPG	Shaanxi Province Government
SUR	Seemingly Unrelated Regression
TPA	the Theory of Planned Behaviour
UNEP	United Nations Environment Programme
UNESCAP	the United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	the United Nations Framework Convention on Climate Change
UNFPA	the United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
WCDLO	West China Development Leadership Office of the State Council of China
WCG	Wuwei City Government
WCPC	Wuwei City Party Committee