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PLANNED RELOCATIONS IN THE CONTEXT OF
NATURAL DISASTERS AND CLIMATE CHANGE:
A REVIEW OF THE LITERATURE

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Front Cover Photograph: Homes in Chowke, Mozambique destroyed by floods (IFRC Mozambique, February 7, 2013).

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TABLE OF CONTENTS

PART 1: REVIEWING THE LITERATURE ON PLANNED RELOCATIONS IN THE CONTEXT OF NATURAL DISASTERS AND CLIMATE CHANGE	1
Introduction	1
Methodology	2
Results	2
<i>Anticipatory versus reactive relocations</i>	2
<i>Geography and wealth</i>	3
<i>Year of Publication</i>	4
<i>Hazards</i>	5
<i>Terminology</i>	5
<i>Successful or Unsuccessful</i>	5
Issues	6
Gaps	8
Conclusion	8
PART 2: ANNOTATED BIBLIOGRAPHY ON PLANNED RELOCATIONS IN THE CONTEXT OF NATURAL DISASTERS AND CLIMATE CHANGE	10

PART 1: REVIEWING THE LITERATURE ON PLANNED RELOCATIONS IN THE CONTEXT OF NATURAL DISASTERS AND CLIMATE CHANGE

Introduction

Population growth, urbanization and environmental degradation have led to the exposure of a rising number of people to disaster risk, with statistics showing a steep rise in the number of disasters caused by natural hazards in recent decades.¹ These numbers are likely compounded by the effects of a changing climate that is already increasing and predicted to increase even more the frequency and ferocity of a number of natural hazards.² Both increasing disaster risk and the growing number of actual disasters are leading authorities and the international community to consider the planned relocation of people at risk from unsafe areas as a strategy to reduce loss of life and injury from those hazards. At the same time, many communities are reaching the same conclusion as they contemplate moving to safer areas.

An interdisciplinary expert meeting in Washington D.C. in February 2015 defined planned relocation as follows: “planned relocation is a process in which persons or groups of persons move or are moved away from their homes, settled in a new location, *and* provided with the conditions for rebuilding their lives. Planned relocation is carried out under the jurisdiction of the state, takes place within national borders, and is undertaken in order to mitigate risk and impacts related to disasters, including the effects of climate change.”³

The meeting went on to note that:

“Planned relocation occurs in the context of three types of situations:

1. In anticipation of disasters, environmental change, and/or the effects of climate change;
2. As a response to disasters, environmental change, and/or the effects of climate change; and
3. As a consequence of measures related to climate change adaptation or disaster risk reduction measures.”⁴

¹ See EM-DAT: International Disaster Database. Université Catholique de Louvain, Brussels (Belgium) <http://www.emdat.be/>

² For details see: Intergovernmental Panel for Climate Change. Climate Change 2014: Synthesis Report Summary for Policymakers. 2014. http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_SPMcorr2.pdf

³ Elizabeth Ferris, et al. Relocations in the context of climate change. Pre-meeting: In search of a common understanding of terms, 13 February 2015, Brookings Institution, Washington DC, p. 2.

⁴ Ibid., p.2.

The literature review in part 1 of the paper will use the terminology suggested by the Washington D.C. pre-meeting, while the annotated bibliography will follow the language used by the authors.

This paper provides an overview of the literature on case studies on planned relocations. For that purpose, it reviews 38 documents, which present case studies on planned relocations. The main focus of the study lies on case studies focusing on the first and second category of relocations introduced above, which this paper will call anticipatory and reactive relocations. The paper provides an overview of the literature, discusses trends that can be extrapolated from that review and identifies possible gaps in the literature. This is followed in part 2 by an annotated bibliography of the 38 documents.

Methodology

The review process proceeded by looking for literature in academic journals and databases, as well as a google search under the keywords of “planned relocation,” “relocation,” “resettlement,” coupled with the keywords “preemptive,” “post-disaster,” “disaster,” “natural disaster,” “climate change,” and “environmental change” as well as “no-build zones.” In addition, country-specific searches were done based on recent known cases of reactive settlement such as the Philippines, Mozambique, etc. Further, gray literature produced by think tanks, international organizations and NGOs was reviewed. The search included articles in the time range from 1950 to 2015. Of approximately 50 studies in English and French identified during the preliminary research, 38 studies were chosen for review as they fulfilled the criteria of:

- Focus on planned relocations based on the definition and criteria presented on page 1 of this study (disasters, environmental change, and/or the effects of climate change);
- Discussion of at least one case study, review of a number of such studies, or provision of overview of planned relocation literature on a certain aspect (e.g. health effects of planned relocations, etc.);
- The majority of the excluded studies were discussing issues of planned relocations in general terms without referring in detail to any case studies.

While the literature review aims at being as comprehensive as possible, certain selections had to be made in the process. The main focus of the review is on journal articles which analyze planned relocations. The review also includes a number of book chapters that provide specific case studies of such relocations. Further, a small number of news articles or gray literature such as NGO reports have been included for events such as Typhoon Haiyan in the Philippines that have only occurred recently and therefore no academic literature is available yet, but which exemplify important debates about the issue of no-build zones, e.g. areas that governments declare to be unsafe for habitation because of disasters, environmental change, and/or the effects of climate change.

Results

Anticipatory versus reactive relocations

Of the 38 papers, 17 (covering 24 case studies) fall into the category of preemptive or anticipatory relocation and 21 (covering 25 case studies) into the category of reactive relocation. This distinction is by no means clear-cut, as in many of the cases of anticipatory relocation, people have already suffered from sudden or slow-onset natural hazards and/or environmental change that have been more or less disastrous and have in some cases led to displacement. The strongest factor distinguishing anticipatory from reactive relocations is the fact that in reactive relocations, the decision to relocate people is made after a major disaster which most often produces large-scale displacement. In those cases, often people's houses and livelihoods are destroyed and return is difficult if not impossible. In anticipatory relocation cases meanwhile, there usually is a longer time and planning window to decide on the relocation and people are usually able to stay at their homes or places of habitual residence (or at least within their community if their homes are destroyed) until the relocation takes place.

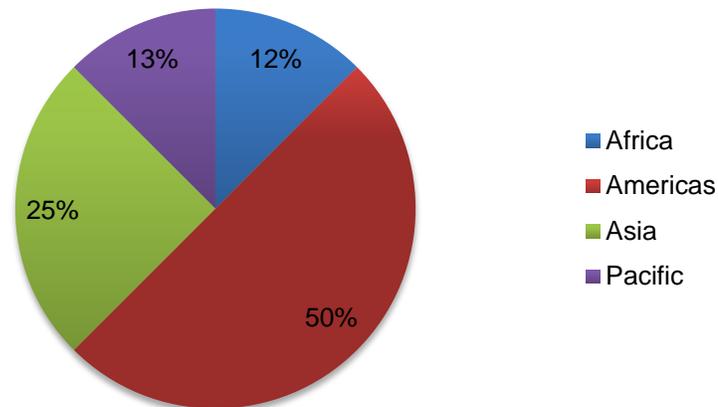
The distinction between anticipatory and reactive relocation is used to analyze the literature on planned relocations and the analysis tries to show that there are significant differences in interpreting the literature based on this distinction.

Geography and wealth

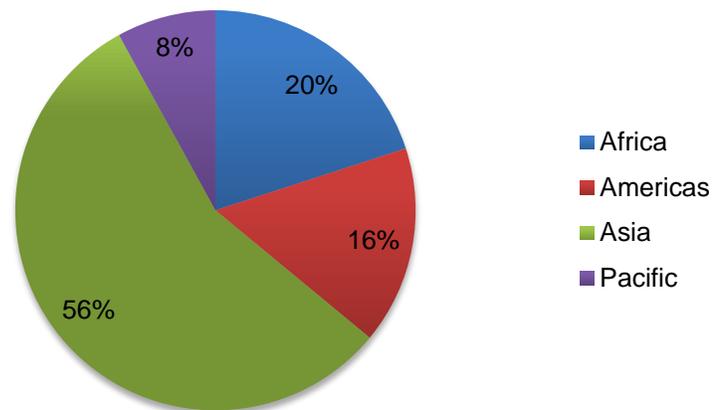
Of the 49 case studies discussed in the papers, 20 case studies are from Asia, 16 from the Americas, eight from Africa, six from the Pacific⁵ and none from Europe. There are significant differences between the literature on anticipatory relocation and the literature on reactive relocation. In terms of anticipatory relocations, half of the case studies are from the Americas (12), followed by Asia (6) and Africa and the Pacific (3). Reactive relocation studies are mainly from Asia (14) followed by Africa (5), the Americas (4) and the Pacific (2).

⁵ Including Australia

Anticipatory Relocations



Reactive Relocations



The case studies originate from 27 countries, with eight case studies from the USA, four case studies from Mozambique, three each from Papua New Guinea and the Philippines respectively and two case studies each from Australia, China, India, Indonesia, Japan and Vietnam. All other 17 countries were represented in only one case study: Argentina, Bangladesh, Brazil, Cameroon, Colombia, Ethiopia, Ghana, Guatemala, Haiti, Honduras, Iran, Kenya, the Maldives, New Zealand, Panama, Sri Lanka, Taiwan and Turkey.

In terms of income, five of the countries analyzed in the reviewed case studies are high-income countries (GNI per capita above US\$12,745), eight are upper-middle income countries (\$4,126-\$12,745), ten are lower-middle income countries (\$1,046-4,125) and five low-income countries (GNI below \$1046). This clearly shows that planned relocations are not a phenomenon affecting countries in a certain income-bracket, but there clearly seems to be a trend for studies to focus on lower and upper-middle income countries.⁶

Year of Publication

There seems to be a clear rise of interest in the topic of planned relocations (both reactive and preemptive) in recent years, with a large majority of reviewed papers being published between 2010 and 2015. 32 of the 38 papers and articles reviewed were published during that period. Four papers were published between 2000 and 2009 and two papers were published between 1990 and 1999.

Hazards

While disaster literature is clear that hazards on their own do not cause disasters, but factors such as vulnerability and adaptive capacity are important in determining if a hazard becomes a disaster, the hazard component plays an important role in the literature on planned relocations. The literature on planned relocations shows that a range of different hazards can push communities to relocate. For this review, we differentiate between earthquakes, tsunamis, floods, storms, volcanoes, landslides, sea level rise and other coastal slow-onset climate change impacts such as melting permafrost, coastal erosion and salinization of drinking water aquifers and environmental change.⁷ To ascribe one hazard as the main factor is not always as clear-cut as it seems, as particularly in cases of anticipatory relocation⁸ many studies show that a number of hazards are involved, often both sudden-onset and slow-onset. The effects of sea-level rise for example can compound effects of storm surges or king tides. Storms can compound salinization of groundwater, etc. In addition, particularly prevalent in slow-onset cases, human impact such as the depletion of ground water and other human-caused environmental degradations are often part of picture.

For reasons of analysis, this paper has identified the main hazards that were described for each case study as the trigger for relocation. Again, there is a clear distinction between studies on anticipatory settlement and on reactive settlement. A majority of case studies on anticipatory settlement (eight cases) name climate change impacts and in particular sea-level rise as the main reasons for the planned relocation, six others

⁶ The distinction is taken from the World Bank. For more information please see: <http://data.worldbank.org/about/country-and-lending-groups>

⁷ This category stands for other slow-onset effects such as desertification, changes in water-tables, changes in flora/fauna.

⁸ The Brookings pre-meeting suggested the term of the use settlement rather than resettlement, to avoid confusion with the use of the term in other fields. This paper will follow that terminology.

name floods as the prevalent hazard, two studies each highlight storms and environmental change and one study highlights landslides as the hazards leading to relocation. For reactive relocations, geological hazards are much more frequent reasons, with four studies looking at relocation because of earthquakes, three because of tsunamis and one because of volcanic eruptions. The most frequent hazard in this category though are storms with six cases. Other than that, three case studies have floods as the main reasons for relocations.

Terminology

There is no clear use of terminology in the field. A small majority of studies follow the template of development-induced displacement and resettlement and go with the term resettlement for the process. A qualified minority uses the term relocation. Affected persons are also at times called resettlers, resettled persons, displaced persons, relocated persons, etc. There are also differences on other major terms. One paper, for example uses the term coerced relocation, rather than forced relocation.

Successful or Unsuccessful

To assess if a planned relocation was successful is a difficult task and the literature shows that governments and relocated persons might have very different ideas about that fact at times. Opinions even differ significantly within the group of relocated persons. Objective criteria usually taken from the development-induced displacement and resettlement literature are that relocated persons should be at least as well off as before the resettlement and should not fall prey to the multiple risks discussed in Cernea's Risk and Reconstruction Model.⁹ More ideal, relocation should be a development opportunity.

While the reviewed papers only provide a small sample, there is some indication that in planned relocation cases that are led by affected persons or where affected persons are active participants in the process are seen as more successful by the affected population.

Another factor that likely influences the success or failure of a planned relocation is the size of the project. The evidence of the reviewed literature seems to show that chances for successful outcomes are improved if the relocation project is smaller in scale. This could be due to the fact that affected persons and communities are more likely to be more actively engaged, that less funding is needed and that planning is easier for smaller groups.

One conclusion from the review of the literature is also that success or failure of planned relocations does not only depend on the objective qualities of the relocation

⁹ Michael M Cernea, "Risks, Safeguards, and Reconstruction: A Model for Population Displacement and Resettlement." In: Michael M Cernea and Christopher McDowell (eds), *Risks and Reconstruction: Experiences of Resettlers and Refugees*. 2000. Washington DC: The World Bank.

process and the new house and new livelihoods, but to a large degree is also determined by the individual and collective narratives that are created throughout the relocation process. Here the feeling of being involved and consulted and facing a difficult situation through the support of family, community and supportive institutions seems to make important differences in the assessment.

Issues

The main issues discussed in the reviewed research can be grouped into six different categories:

1. Political issues;
2. Legal and governance issues;
3. Technical and planning issues;
4. Human rights issues;
5. Social and cultural issues;
6. Health issues.

These are not clear-cut categories and many papers discuss at least two of the above issues and almost all of the papers also discuss issues related to planning and technical aspects of the relocations. Nonetheless, there are some differences in the frequency of issues discussed, with technical and planning issues the most frequent topic, this is followed by human rights issues, then political issues, with legal/governance and social/cultural issues discussed less frequently. Only one paper discusses health impacts in detail.

Several papers highlight political issues, emphasizing that planned relocations can't be simply seen as a technical issue. For example, in several cases, planned relocation policies are viewed with suspicion and seen as the recurrence of previous settlement attempts under a different guise, which leads to a discussion of elite interests versus the interests of the displaced persons. In some cases this is also compounded in a debate between local knowledge wisdom, versus elite knowledge/international knowledge. Some case studies frame this debate in terms of disaster capitalism and neoliberal policies, with relocations being seen as part of neoliberal agendas. Two papers also highlight issues of post-colonial governance, which is for a number of reasons not conducive to successfully planned relocations in the cases of Cameroon and Papua New Guinea.

Legal and governance issues are particularly prevalent in papers on planned relocations in the developed world, with little discussion about those issues in case studies in developing nations. Prevalent are discussions about how government structures can assist and have assisted communities in relocations and about legal and policy gaps. In terms of legal issues, a number of papers focus on the issue of land- and property-rights.

Many of the reviewed papers have a human rights focus. Most commonly, this is manifest in discussions of which human rights are impacted by planned relocations and the affirmation that human rights are an appropriate framework for the planning and evaluation of relocations. This is often accompanied by the assertion that relocations should be guided by international human rights law and international human rights frameworks such as the UN Guiding Principles on Internal Displacement¹⁰ and one study highlights the fact that while governments in a number of countries are inclined to provide for socio-economic rights in terms of relocation, they are reluctant to grant political rights to displaced persons.

In terms of technical and planning issues, a wide range of issues are discussed. Here the distinction between anticipatory relocation and reactive relocation certainly has merit. Case studies on anticipatory relocation on average have a stronger focus on the affected community and how the community is involved in the planning and execution of the relocation project, while this is less prevalent in the reactive relocation literature. Many anticipatory relocation cases, as already mentioned, are also still in the planning or early execution stage, meaning that only few papers take an evaluative view of the entire process, while a significant number of papers on reactive relocation are evaluating the projects' after they have ended, at times even years or decades after the relocation.

Many case studies focus on describing good and bad practices throughout the relocation process, for example, focusing on issues such as a) involvement of affected population, b) planning, c) execution (housing, land and property, livelihoods, community, other socio-economic issues). Several papers use Cernea's Risk and Reconstruction Model to analyze the relocation plan or process, which is a model that was developed in the context of development-induced displacement and resettlement projects, but which according to the authors also seems to be useful in analyzing planned relocations caused by natural hazards and the effects of climate change.

Several papers also focus mainly on the socio-cultural aspects of relocations. The literature highlights that relocations can have a severe impact on the social fabric of families, extended families and communities, particularly if socio-cultural issues are not taken into account in the planning process. Particularly livelihood changes forced by the relocation can compound those impacts. Dispersal of communities through displacement and relocation can also impact negatively on a community culture, as for example in the case of the twice displaced King Island Native community.¹¹

Finally, one paper reviews the literature on health effects of reactive relocations. It shows that displacement can have both negative physical and mental health impacts and suggests that health impacts are not to be underestimated when planning relocations.

¹⁰ UN OCHA. UN Guiding Principles on Internal Displacement. 1998. <http://www.idpguidingprinciples.org/>

¹¹ See Kingston and Marino (2010) in the annotated bibliography.

Gaps

The reviewed papers and case studies cover a lot of ground, but the review has identified a number of gaps in the literature. First, there was no single case study on a European case of relocation. Nor were there any detailed case studies on anticipatory relocation from Africa.

Regarding content, there is a clear lack of studies looking at legal and governance issues regarding planned relocations outside the United States. Further, there are few comparative studies that compare cases from different countries or regions. There is also a gap in evaluative studies on planned relocations caused by the effects of climate change, but this may reflect the fact that most such relocations have not yet been completed.

Conclusion

The literature reviewed here on planned relocations is diverse in terms of geography, hazards and issues discussed as well as in terms of social science disciplines, from sociology, to political science and ethnography. As the publication dates of the reviewed papers show, there has been an increased interest in both preemptive and reactive relocations within the last half decade, with most of the literature coming from that time period. Preemptive relocations represent a particularly 'new' topic in the literature.

There is general agreement in the literature that planned relocations are complex undertakings that should be undertaken for sound reasons and be well planned, well financed and well executed. But even when all these criteria are fulfilled there is no guarantee that the affected persons will see such relocations as a success given the multiple socio-economic and cultural issues that come into play. Still, the literature seems to suggest that certain factors have an impact on the success – or perceived success – of a particular relocation effort.

First, timeframes play a role, which is why anticipatory relocations seem to generally be perceived as more successful than reactive relocations. A longer timeframe allows for better planning and for stronger involvement of affected persons and communities. Anticipatory relocations often also allow affected persons to stay in their homes until the relocation date rather than relocating people who have already been displaced. This might also be an important point to keep in mind when making the case for planned relocations.

Second, community participation is important. The more community-led the relocation is or at least the more communities are consulted and involved in the process, the more accepted the results seem to be. Keeping communities together during the relocation also seems to be an important factor for successful relocations in both socio-economic and cultural terms. Further, host communities and those not displaced also need to be involved in the relocation process.

Third, small is beautiful. A number of studies show that planning on a small scale (community or municipality level) has a better chance of success than large scale relocations of hundreds of thousands or even millions of persons.

Fourth, planned relocations need to be considered in broader economic and political contexts and narratives. Communities' prior experiences with migration and displacement will play a particularly important role in how planned relocations are accepted and perceived. As the narratives surrounding the relocation play an important role in whether the relocation process is assessed as a success or a failure, this is an important lesson to take.

Fifth, while the literature reviewed here brings a number of insights to the fore, the topic of planned relocations has been the subject of relatively few rigorous academic studies. More research is needed to shed light on the many important dimensions, whether political, legal, economic governance, technical, human rights or health issues. There certainly are many more case of planned relocations that have not yet been researched. It might also be of interest to take a closer look at literature on related issues, for example on slum upgrading or urban renewal projects that might have a hazard reduction component in order to widen the evidence base on previous planned relocation projects.

ANNOTATED BIBLIOGRAPHY ON PLANNED RELOCATIONS IN THE CONTEXT OF NATURAL DISASTERS AND CLIMATE CHANGE

1. Anticipatory relocation

Bitoune, M., “Newtok: struggle, survival and recovery.” In: Gemenne, F., Brücker, P., Ionesco, D. *The State of Environmental Migration 2014: A Review of 2013*. IOM and Sciences Po. 2014. 119-134.

The article discusses the relocation process of the Alaskan (USA) indigenous village Newtok. Both gradual ecosystem changes and rapid onset disasters impact the habitability of the village. As erosion control is nearly impossible, relocation is the only viable option. While the planning for relocation by the community started in 1994, the process is still ongoing. The regional government formed an inter-agency Newtok Planning group in 2006 to facilitate the process, but it is the Newtok community that remains the key actor in the process. In 2012 it formulated a set of guiding principles that must be applied and promoted in the relocation process by both partners and all community residents. Challenges identified in the article are the lack of responsibility of a single agency, lack of federal law on relocation, lack of funding for relocations, lack of criteria on when it is unsafe for a community to stay in its place of origin and statutory issues, such as minimum requirements for building infrastructure. The article draws attention to the complexity of a voluntary community-based relocation process and underscores how lengthy the process of relocation can be.

Bronen, R. “Climate-induced Community Relocations: Creating an Adaptive Governance Framework Based in Human Rights Doctrine.” *NYU Review of Law & Social Change*. 2011.

<http://socialchangenyu.com/2012/08/24/climate-induced-community-relocations-creating-an-adaptive-governance-framework-based-in-human-rights-doctrine/>

This article discusses the situation of an indigenous community in Newtok, Alaska, which has decided that it must relocate due to the impact of climate change on the environment. The article highlights the legal and bureaucratic difficulties that a community that voluntarily chooses to relocate faces as such a relocation does not fit within common frameworks of risk governance in the United States. Ultimately, the article proposes the development of a relocation policy framework that is based on human rights standards.

The article provides important insights into governance issues related to planned relocations. It is particularly striking that this well-organized community, which is planning ahead to stave off future climate-related problems, still faces numerous challenges.

Bronen, R. “Choice and necessity: relocations in the Arctic and South Pacific.” *Forced Migration Review*. 1 February 2014. 45:17-21.

This article discusses two community efforts to organize planned relocations in the context of negative environmental impacts brought about by climate change: the Newtok Traditional Council in Alaska and Tulele Peisa, an NGO in Papua New Guinea's Carteret Islands. It particularly highlights the rights of communities to relocate collectively and the necessity of basing the relocation process on human rights principles.

While the article does not provide significant detail in discussing the case studies, it does include an important discussion on an adaptive governance framework. This framework, rooted in human rights principles, would help ascertain when a community can no longer adapt to environmental changes and must move.

Correa, E. (ed.) *Preventive Resettlement of Populations at Risk of Disaster: Experiences from Latin America*. Washington, D.C: The World Bank. 2011. http://www.gfdrr.org/sites/gfdrr/files/publication/preventive_resettlement_LAC_experiencesDS150.pdf

This publication introduces case studies about preventive resettlement of at-risk populations in four Latin American countries: Argentina, Brazil, Colombia, and Guatemala. In particular, it focuses on lessons learned, from identifying at-risk populations to wrapping up projects in the post-resettlement phase, highlighting experiences that can be replicated. The report highlights the connection between unplanned urbanization, poverty, and disaster risk. It concludes that resettlement must be incorporated into comprehensive risk management policies. As resettlement is multi-dimensional, it must be implemented in a way that involves various sectors and institutions and should be meticulously planned. The report further highlights that there are a number of possible good solutions, but all of them depend on community participation. Another issue highlighted is the importance of control of the land from which people moved in order to prevent at-risk areas from being settled again.

This is the most comprehensive publication on preemptive relocations reviewed. It contains very detailed case studies that demonstrate that if done well, planned relocations can be successful in achieving their objectives and can prevent major hazards associated with displacement from becoming reality.

Cronin, Victoria and Guthrie, Peter. “Community-led resettlement: From a flood affected slum to a new society in Pune, India.” 2015. *Environmental Hazards*. 10(3-4):310-326.

The paper evaluates the planned relocation of a community devastated by annual floods in Pune, India which was organized by a community-led NGO partnership in 2004. The relocation process began with a community survey and adopted a community-oriented approach. Affected persons were encouraged to start savings schemes to be able to provide down payments on the new housing. These funds,

together with some public funding and bank loans resulted in the construction of 176 housing units. Problems in the project's implementation included delays due to frequent changes in the bureaucracy and the reluctance of banks to provide loans to people living in informal settlements and who were not employed in the formal sector. The authors revisited the community six years later and noted that the project had been successful, with none of the affected persons having moved out of their new housing units. One negative issue raised by affected persons was the initial lack of transportation from the new site to livelihood opportunities, but this had since been alleviated.

The article discusses the relocation process in great detail and highlights a number of interesting points on how successful planned relocations can be organized.

Development Solutions. *The Peninsula Principles in Action: Climate Change and Displacement in the Autonomous Region of Gunayala, Panama. Mission Report. 2014.*

The report looks at the possible relocation of an indigenous group living on coral islands off the coast of Panama, where up to 40,000 persons might be required to relocate to the mainland. One small part of the community is already working on a community-led relocation project, but the process is drawn out, in part because of the lack of a coordinated government response to the relocation plan. One preliminary success was the ongoing construction of a school and a health clinic at the relocation site. The report further highlights that many members of the community are reluctant to relocate, with tensions emerging between those who remain on the island and the substantial diaspora that has moved to the mainland (most of them to the capital). The main reasons for the reluctance to leave are land rights, health (there is no malaria or yellow fever on the islands) and livelihood issues.

This report provides a good overview of a climate-change affected community and emphasizes how complex and lengthy relocation planning and implementation can be.

Edwards, J. "The Logistics of Climate-Induced Resettlement: Lessons From the Carteret Islands, Papua New Guinea." *Refugee Survey Quarterly. 2013. 32(3):52-78.*

This paper analyzes the ongoing relocation efforts of the population of the Carteret Islands in Papua New Guinea, which are under threat due to the effects of climate change. It notes that there were already three previous attempts in the last half century to move some part of the population off the islands, all of which were of limited success. After laying out recent resettlement efforts, which include a plan to move half of the population of 1350 people to a location on the adjacent Bougainville Island by 2020, the paper discusses the previous resettlement attempts. It also analyzes the current project in light of Cernea's Impoverishment Risk and Reconstruction framework.

The case study gives a detailed overview of the many challenges that a community that is willing to relocate faces, especially given the failure of previous relocation attempts.

Han Yang. “Assessing the evolvments and impacts of environmental migration in Inner Mongolia.” in: Gemenne, F., Brücker, P., Ionesco, D. *The State of Environmental Migration 2014: A Review of 2013*. IOM and Sciences Po. 2014. 49-65.

The article discusses planned relocations and migration from environmental change (sand storms and desertification) in Inner Mongolia (China PR). It analyses the history of planned relocations in the region, which started with a pilot project in 1998 which resettled 15,000 people and was followed in 2001 by a larger plan to resettle 650,000 people. Subsequent 5-year plans also saw additional planned relocations of approximately 300,000 persons per planning period. Many of the relocated persons are members of ethnic minorities. The paper then discusses in detail a resettlement scheme from 2013-2017 that seeks to relocate more than 300,000 persons, highlighting that the process is very much top-down in nature, but includes a strong component of poverty alleviation. The scheme divides migrants into two categories, eco-migrants who received landed compensation for the loss of their land and labor-migrants who are living from wage-labor. It further differentiates between communal relocation where whole communities are relocated and scattered relocation, in which individuals are moved. The research shows that there are major differences in economic outcomes for different groups. While former farmers saw their incomes increase, former herders who were forced to become farmers saw major drops in their income after the resettlement. The paper notes that the relocation also had major social consequences, particularly in areas where different groups were mixed in relocation areas. Relocation also put environmental strains on the newly-settled areas, with waste and water-management causing particular difficulties.

The article demonstrates the ambivalent results of large-scale relocation projects, with relocated populations experiencing both positive and negative effects. As the results of resettlement differ from village to village, no black-and-white conclusions can be drawn.

Koppel Maldonado, J. *Facing the Rising Tide: Co-occurring disasters, displacement, and adaptation in coastal Louisiana’s tribal community*. PhD Dissertation. Washington D.C.: American University. 2014.

The dissertation investigates the experiences of environmental change and displacement for the Isle de Jean Charles and Grand Caillou/Dulac Bands of Biloxi-Chitimacha-Choctaw Indians and the Pointeau-Chien Indian Tribe in Louisiana (USA). Covering a wide range of issues, it also discusses the issue of relocation for those tribal communities. Government-based cost-benefit analysis considered the tribal territories too expensive to be protected and instead planned relocation was offered. However, residents resisted relocation for a number of reasons (lack of trust in the government’s motives, livelihood issues, cultural heritage issues, etc.) and the plans were not carried to fruition. Another attempt was blocked because of concerns about property values in the potential host community. Meanwhile, communities continued to shrink due to out-migration as environmental change impacted livelihoods and living conditions. Because of those issues, the dissertation notes, some of the tribes began to consider community-led relocation to help maintain communal and cultural integrity. This has proven difficult because US government institutions are not built to support preemptive relocation, in

particularly not for entire communities. The dissertation paints a very detailed picture of the complexities surrounding relocation decisions by indigenous communities and concludes that governance structures need to take into account indigenous concerns about culture and livelihoods when making decisions.

Koppel Maldonado, J., Shearer, C., Bronen, R., Peterson Kristina, Lazrus, H. “The impact of climate change on tribal communities in the US: displacement, relocation, and human rights.” *Climatic Change* (2013) 120:601–614.

This paper looks at the advocacy efforts and strategies of indigenous communities in the United States that are dealing with climate change displacement and relocation. It discusses case studies of Kivalina in coastal Alaska and Jean Charles island in Louisiana. Kivalina residents decided that they needed to relocate because of coastal erosion, but realized that there was no designated government body to assist communities with the process and that many disaster programs and funds are available only after a disaster occurs. A similar picture evolved in Louisiana, where coastal erosion and saltwater intrusion continue to make Jean Charles island shrink and flood, leading its indigenous inhabitants to decide to relocate. In addition, the paper also discusses the case of Newtok, another indigenous village in Alaska, whose inhabitants have started the relocation process, albeit slowly, given a multitude of bureaucratic hurdles. Following the case studies, the paper looks at some of the legal issues surrounding relocation, followed by a discussion of historical precedents regarding relocation in the United States. Finally, it proposes the use of a human rights approach in dealing with planned relocation as a result of climate change.

Similar to the second Bronen paper discussed above, this paper also addresses the lack of governance frameworks for adaptive relocation in the United States.

Kothari, U. “Political discourses of climate change and migration: resettlement policies in the Maldives.” *The Geographical Journal*. June 2014. 180(2):130–140.

This paper examines the politics of climate change discourse through analysis of resettlement policies in the Maldives, where the government is proposing the consolidation of a population presently dispersed over 200 islands onto 10 to 15 islands. It notes that schemes to consolidate populations already exist in the Philippines, where similar initiatives have gained renewed leverage now that they are couched in environmental terms. The paper further discusses how environmental discourses are being mobilized to re-introduce previously unpopular resettlement and migration policies.

The paper draws attention to the fact that planned relocations due to climate change will always be embedded in a broader domestic political context.

King, D., Bird, D., Haynes, K., Boon, H. Cottrell, A., Millard, J., Okada, T., Box, P., Keogh, D., Thomas, M., “Voluntary relocation as an adaptation strategy to extreme weather events,” *International Journal of Disaster Risk Reduction*. 2014. 8: 83–90

This paper investigates the concept of voluntary within-country migration as an adaptation strategy to reduce disaster risk in Australia. The researcher conducted a survey in three locations affected by floods in 2010/11 to test respondents' perceptions about disaster risk and about the likelihood that disaster risk might lead them to voluntarily relocate. The research found that those considering relocation were predominantly young to middle-aged adults, earning mid-range household incomes, predominantly vocationally qualified and characterized as living within a family structure of a couple with children. Renters indicated a greater likelihood to leave than property owners. Further, people with low adaptability because of health issues, low social integration or economic difficulties were more interested in relocation. Individuals knowing about climate change were also more likely to consider leaving than others. Moreover, measures of adaptability suggested that the more adaptable people were, the less likely they were to leave the community. Overall, the study found that between 10 to 20 percent of population might be willing to consider relocation or migration to another place because of natural hazards.

While the paper does not deal with real case-studies of relocation, it provides interesting insights into the groups most likely to relocate because of the effects of natural hazards and climate change.

Lipset D. “The New State of Nature: Rising Sea-levels, Climate Justice, and Community-based Adaptation in Papua New Guinea (2003-2011).” *Conservation and Society*. 2013. 11(2):144-158.

This paper is an ethnological case study that examines local-level discourse about the prospect of internal resettlement because of slow-onset coastal erosion in the Murik Lake region of Papua New Guinea. The government decided to relocate three villages after high-tide events in 2003. The process is still ongoing and at the time of the paper, no resettlement had yet taken place. The paper highlights that in response to the ineffective postcolonial state, the villagers felt ambivalent about, and attached to their current locations. They also expressed fears about resettlement, focusing mainly on issues of changes in livelihoods and wariness about their relationship with the host community. This led to a discussion about community-based adaptation, which offers a temporary solution and an illusion of empowerment, but no justice.

The study is important for pointing out important cultural aspects that might come into play when considering relocation due to climate change, and for analyzing how cultural narratives can shape perceptions about relocation.

Perry, R. W. and Lindell, M.K. “Principles for Managing Community Relocation as a Hazard Mitigation Measure.” *Journal of Contingencies & Crisis Management*. 1 March 1997.

This paper traces the history of a community relocation of 35 households because of flood risk in Allenville, Arizona (USA), documenting citizens’ needs and responses to the event. It highlights the overwhelmingly positive response of the community to the relocation and notes that one of the main reasons for the success was the community’s efforts to relocate together. While some community members decided to settle elsewhere, the majority of the community decided to move to the new location together, even though the relocation process took several years and required most of the displaced persons to live in a trailer park during the transitional period. The paper also develops a series of principles for creating positive relocation experiences. These principles highlight the importance of community organizing and the involvement of the affected persons in the decision-making process, making a particular point that special attention should be given to the social and personal needs of the displaced persons and the preservation of social networks. In closing, the paper looks at the international use of relocation and the potential for applying the aforementioned principles to various contexts.

This case study offers a detailed description of a small-scale relocation that has been successful in keeping the community mostly intact.

Rogers, S. and Wang, M. “Environmental resettlement and social dis/re-articulation in Inner Mongolia, China.” *Population and Environment*. 2006. 28:41–68.

This article discusses environmental resettlement in Inner Mongolia, China, highlighting that as of mid-2005, over 700,000 people in western China have been resettled for environmental reasons. The resettlement projects were a response to environmental degradation and were meant to aid in poverty alleviation. The paper describes the impoverishment risk caused by social disarticulation as experienced by resettled persons in one Inner Mongolian resettlement village. The authors highlight the ambivalent reactions of the populations to the resettlement, noting that resettled persons expressed attachments to both their old homes and their new ones. It further notes that one of the important aspects of the resettlement was the continuity of social networks.

Within a large-scale relocation project, this provides an important micro-view of one village of relocated persons. It shows the importance of the community in helping displaced persons adjust to new circumstances. It also demonstrates how relocation (re)shapes a sense of community.

Vo Thanh Danh “Evaluation of the living with flood policy: The case of the resettlement program in Vietnamese Mekong Delta.” In: Stewart, M. A. and Coclans, P. A. (Eds.) *Environmental Change and Agricultural Sustainability in the Mekong Delta*. 2011. 181-204.¹²

This paper discusses the Vietnamese Government's Living with Flood program that relocated 200,000 households, or more than 1 million people, living in the permanently flooded areas of the Mekong delta, to more than 1,000 resettlement clusters. It notes that the program was both successful and unsuccessful. The negative aspects of the resettlement project were that the program had problems securing sustained financing and that the resettlement led to degraded livelihood conditions, which caused the incomes of resettled persons to be lower than before. The displaced persons also criticized the poor quality of the provided infrastructure. Nonetheless, the paper points out that the program was popular with resettled communities as it helped mitigate flooding risks.

The document provides an important view of one of the largest planned relocation programs in the world, discussing mostly technical aspects of the relocation.

Zetter, R. and Morrisey, J. “Environmental stress, displacement and the challenge of rights protection.” *Forced Migration Review*. February 2014. 45:67-71.

This article focuses on the rights framework for groups and individuals displaced in a context of environmental stress and climate change as of February 2014 in Kenya, Bangladesh, Vietnam, Ethiopia, and Ghana. It highlights that in practice the discourse of rights is frequently reduced to a focus on material rights, at the expense of the much more challenging issue of ensuring political rights. In terms of resettlement, this leads to a focus on restoration of livelihoods and resettlement to safer ground, but it fails to address the importance of empowerment, inclusionary decision-making, and the full participation of the affected persons in the resettlement process.

While the article does not discuss the issue of relocation in much detail, taking a broader view on displacement, it nevertheless makes important contributions about the practical limitations of a rights-based discourse on planned relocations.

2. Reactive relocation

Arnall, A., Thomas, D. S., Tywman, C., Liverman, D. “Flooding resettlement, and change in livelihoods: evidence from rural Mozambique.” *Disasters*. July 2013. 37(3):468-88.
http://environment.arizona.edu/files/env/Arnall%20et%20al_Liverman%20on%20Mozambique%20Disasters_2013.pdf

This paper examines how and why people's livelihoods change as a result of

¹² Review based on a 2-page executive summary of the paper.

resettlement in the context of natural disasters and also analyzes how relocated people view such changes. The paper presents two historically grounded, comparative case studies of post-flood resettlement in rural Mozambique. The studies demonstrate a movement away from rain-fed subsistence agriculture towards commercial agriculture and non-agricultural activities. The ability to secure a viable livelihood was a key determinant of whether resettlers remained in their new locations or returned to the river valleys despite the risks posed by floods.

This paper is a useful contribution to the discussion about the importance of livelihood issues when it comes to planned relocations.

Arnall, A. “A climate of control: flooding, displacement and planned resettlement in the Lower Zambezi River valley, Mozambique.” *The Geographical Journal*. June 2014. 180(2):141–150.

This paper looks at forced relocations in the Lower Zambezi River region after major flooding in 2008. It highlights how a dominant narrative of climate change-induced hazards for small-scale farmers is contributing to their involuntary resettlement to higher-altitude, less fertile areas of land. It notes that these forced relocations are buttressed by a series of wider economic and political interests in the Lower Zambezi River region, such as dam construction for hydroelectric power generation and the extension of control over rural populations, from which resettled people derive little direct benefit. It further highlights donors’ willingness to support such projects, thus rationalizing the top-down imposition of unpopular social policies.

Importantly, this paper highlights that planned relocations cannot be seen as detached from the historical, political, and economic processes in a country. Further, it notes that elites and international actors might overlook adaptive capacities that local people possess.

Artura, L., Hilhorst, D. “Floods, resettlement and land access and use in the lower Zambezi, Mozambique,” *Land Use Policy*. 2014. 36:361–368.

This paper analyzes planned resettlement policies after major floods in the lower Zambezi region of Mozambique. It notes that there are competing claims about the resettlement project, with the government seeing it as a success, and others seeing it as an erosion of people’s livelihoods and identities. The authors view the resettlement policy as a continuation of a history of resettlement carried out to enhance control and encourage modernization of rural populations. The paper discusses the resettlement process in detail and points out some negative ramifications of the resettlement design, such as the formation of a new elite class and the disruption of communities. It further highlights that families have had differing responses to the resettlement, depending on their livelihood capacities and aspirations to adopt a more modern lifestyle. Many families opted for a mixed lifestyle by partly living in, and adapting to, the resettlement area, but also partly retaining their old residence and way of life in the floodplain.

This paper highlights the differences of perception about the success of relocation projects, and sheds an interesting light on how minor variations in planning design can have major effects on the success or failure of planned relocations.

Badri, S. A., Asgary, A., Eftekhari, A. R. and Levy, J. “Post-disaster resettlement, development and change: a case study of the 1990 Manjil earthquake in Iran.” *Disasters*. 2006. 30(4):451–468.

The research in this paper presents the results of a case study undertaken 11 years after the 1990 Manjil earthquake in Iran, focusing on post-disaster resettlement. Based on interviews with resettled communities, the study shows that although resettlement helped with the reduction of risk associated with disaster, the resettlement process also had a number of negative impacts. Specifically, relocated families lost access to their natural resources, resulting in a decline of their capacity to cope with the post-disaster situation. Competition for resources and jobs weakened social networks and reduced cooperation among the members of the resettled population. While the earthquake and relocation led to new economic opportunities for some, many families were exposed to poverty: productive farmers became unemployed and households with multiple sources of income before the earthquake became increasingly dependent on a single revenue stream. The employment challenges of the displaced population were often overlooked by planners and policymakers, and became more acute over time.

While many studies address the immediate aftermath of the relocation process, this study evaluates the effects of resettlement after more than a decade has passed. It reveals the (mostly) negative effects of this particular case. The paper contains important lessons about what should be avoided when planning for relocations.

Devlin, C., Leclaire, L., Didier-Bandou, T. “The Fukushima Evacuees’ Return.” In: Gemenne, F., Brücker, P., Ionesco, D. *The State of Environmental Migration 2013: A Review of 2012*. IOM and Sciences Po. 2013. 117-130.

The article discusses the reasons that the Japanese government’s policy after the East Japan Earthquake focused primarily on return, rather than considering relocation as an option. While a resettlement policy was developed, it notes that as the goal was to return to normalcy after the disaster, return was the preferred option of authorities, which was visible in the way the resettlement policy was conducted. The article finds that the resettlement policy had the goal of keeping communities together, and required at least four families to resettle together (and withholding funds if that was not the case). This policy created problems for families who wanted to relocate, as it was often difficult to find friends and neighbors among the hundreds of thousands of people displaced. It then discusses the case of returnees after the Fukushima nuclear disaster, highlighting that the general post-disaster policy also pushed those displaced from the nuclear disaster towards return rather than relocation.

The article makes the case for facilitating planned relocations rather than return policies, particularly in the case of the Fukushima nuclear disaster and highlights some of the

political issues surrounding the decision by the government not to facilitate relocation by the government.

Dickinson S. B. *Post-Disaster Mobilities: Exploring Household Relocation After the Canterbury Earthquakes*. Master's Thesis. University of Canterbury. 2013.

The study analyzes relocations taking place after the 2010 and 2011 Canterbury earthquakes in New Zealand. After the earthquake, the government sought to move people from dangerous areas through the development of a zoning system. People who were located in the red zone were required to sell their land to the government and largely compensated through mandatory earthquake insurance schemes. The study develops a typology of four types of movers, from those who are reluctant to leave their property in the red zones to those who rather easily embraced the relocation decision. The thesis highlights the complex interplay between government decisions, the insurance market and people's perceptions in deciding on when and where to move after the disaster.

The study does not really deal with planned relocations, as the government forced people to leave their properties in red zones without directly providing relocation options (although it invested in a number of large residential construction projects to provide for sufficient housing in the safer zones). However, it shows some of the advantages as well as disadvantages of market-based solutions for post-disaster situations where zones are declared as being uninhabitable.

Dikmen, N. "Relocation or Rebuilding in the Same Area: An Important Factor for Decision Making for Post-Disaster Housing Projects." in: David A. *Post-disaster reconstruction: meeting stakeholder interests: proceedings of a conference held at the Scuola di sanità militare, Florence, Italy, 17-19 May 2006*, Firenze: Firenze University Press. 2007.

This study, part of an edited volume based on a 2006 conference on post-disaster reconstruction, discusses the refusal of a majority of affected persons, after the 2010 earthquake in Turkey's Cankiri Province, to relocate to newly constructed settlements. The study finds a number of reasons for this refusal, including quick decision-making, lack of popular participation, inadequate site selection criteria, lack of inter-disciplinary work during site selection, lack of consideration of the lifestyles of affected persons, and inadequate guidance for the beneficiaries during the construction phase.

This article provides a detailed case study that highlights an unsuccessful attempt at post-disaster relocation.

Hirano, S. *Learning from Urban Transitional Settlement Response in the Philippines: Housing, Land and Property Issues: Reflections from CRS' 2011– 2012 Post- Tropical Storm Washi (Sendong) Response in Cagayan de Oro.* Catholic Relief Services. 2012.

This document analyzes housing, land, and property issues faced when developing urban, transitional settlements after Typhoon Washi in the Philippines. While the main focus is on transitional shelter, the document also discusses, in detail, the Philippine government's policy of no-build zones and the resulting relocation project for displaced persons from those no-build zones. It highlights that relocation housing for almost 8600 households was to be provided within one year, and although a number of families were able to move into their new houses after four months, many of the relocation sites lacked basic infrastructure, which was not expected to be completed for another two years. The document also highlights that no-build zones were often not clearly delineated, making it difficult for affected persons to know if they had to relocate or not. Further, the creation of no-build zones also had a strong impact on the local land market, with properties in no-build zones losing all of their value, while properties in safe zones saw their prices rise.

While planned relocations are only discussed briefly, the document clearly highlights some of the difficulties posed by the designation of no-build zones in a post-disaster situation.

IRIN News “No-build zones” confusion delays resettlement of Haiyan survivors” 18 July 2014. <http://www.irinnews.org/report/100368/no-build-zones-confusion-delays-resettlement-of-haiyan-survivors>

This article highlights issues surrounding the designation of a 40-meter no-build zone along the coastlines of Eastern Samar and Leyte, two of the areas worst hit by Typhoon Haiyan in 2013. The decision to create no-build zones was contested by some government departments. When the 40-meter no build zone policy led to confusion and inconsistent enforcement, a committee created by the president recommended that reconstruction decisions instead be based on multi-hazard maps that would designate areas as safe zones, unsafe zones, and controlled zones. Because the creation and/or updating of these maps will take some time, however, displaced persons in these areas have been told they will need to wait for the results of these maps before it can be ascertained whether they can return to their homes or whether they need to be relocated elsewhere. The article also points out that international agencies have noted that even with this new, more flexible zoning policy, options for resettlement remain limited.

Importantly, the article highlights that while no-build zones might be required, and can be helpful in keeping people safe from natural hazards, they create a range of problems when applied in a post-disaster setting, where there are significant time constraints on finding transitional or durable shelter solutions for displaced persons.

Jha A. K., Barenstein, J. D., Phelps, P. M., Pittet, D., Sena, S. *Safer Homes, Stronger Communities A Handbook for Reconstructing after Natural Disasters*. Washington DC: The World Bank. 2010.

This World Bank handbook was developed to assist policy makers and project managers engaged in large-scale post-disaster reconstruction programs in making decisions about how to reconstruct housing plans and communities after natural disasters. Among a wide range of issues discussed in the handbook is a chapter on relocations. In this chapter, the authors introduce four case studies on post-disaster relocations. Following detailed guidance on how to plan and conduct relocations, the chapter discusses five case studies. The case studies include the relocations caused by Hurricane Mitch in Honduras in 1998, the Indian Ocean Tsunami in Sri Lanka, India and Aceh in Indonesia in 2004, and the 2008 Typhoon Frank in Iloilo City in the Philippines.

The handbook mainly provides technical guidance on post-disaster reconstruction and uses the case studies to demonstrate some of the suggestions it makes on planned relocations. The case studies show the complex issues surrounding land rights, livelihoods, and participation that often come up in planned relocations in post-disaster settings.

Kingston, D. M. and Marino, E. "Twice Removed: King Islanders' Experience of "Community" through Two Relocations." *Human Organization*. Summer 2010. 69(2):119-128.

This paper discusses the experience of the King Island Native Community in Alaska, USA, which was displaced and relocated twice within 20 years. The first relocation took place gradually and voluntarily over a period of years (mainly for economic reasons and to give the residents access to services such as education and health care). The first wave of relocation occurred from the late 1940s until 1966, while all Ugiuvangmiut (King Islanders) gradually moved from their traditional home on a small island in the Bering Strait, to East End, a mainland site a mile outside of Nome, Alaska. The community was then displaced again in 1974 by a storm. At this point, much of the community dispersed, with a core contingent moving to central Nome. This paper describes the community's experience and highlights that community members' feelings of loss were much greater after the second displacement event, given that it largely dispersed the community and impacted the group's identity. The paper further points out that the community members experienced a loss of self-determination and felt that their decision-making prerogatives were negatively affected because the displacement challenged their sense of community.

This paper sheds interesting light on some of the perceptions of community and culture in an indigenous community and highlights how repeated episodes of displacement can shape those perceptions.

Louis, I. “La relocalisation des familles victimes de Urbis: catastrophes naturelles à Port-au-Prince.” *Boletín Científico Sapiens Research*. 2012. 2(2):71-76

This article analyses five instances of planned relocations in Haiti, two of them before the 2010 earthquake because of flooding and three others after the earthquake. After discussing some of the livelihood issues and questions of secondary risk, it finds that all resettlement attempts ended up with the recreation of informal settlements, which are not well protected against natural hazards and particularly difficult places for women.

The paper is rather short and not very detailed in its analysis.

Ngnyam Bang, H. and Few, R. “Social risks and challenges in post-disaster resettlement: the case of Lake Nyos, Cameroon.” *Journal of Risk Research*. October 2012. 15(9):1141–1157.

This paper focuses on the ongoing post-disaster experiences of survivors who were resettled into seven camps after the Lake Nyos Disaster in Cameroon in 1986. Based on Cernea’s Impoverishment Risk and Reconstruction model, it shows that resettlement is not merely a solution for a housing crisis, but it is also a complex, multi-dimensional process with the potential for a very negative impact if not properly planned and implemented. The article draws particular attention to the reality that the resettlement process caused problems for many displaced persons. For instance: they received smaller land-plots than they initially possessed; they had to deal with changed and/or diminished livelihood opportunities; housing construction was of low quality; displaced people didn’t feel as though they belonged in the host community; there was a loss of access to common property; and there was a lack of adequate infrastructure in their new communities, etc. Also, the difficult economic and political situation in the country during the resettlement period led to successive governments delaying or breaking promises to the displaced communities.

This is a long-term study about a less successful case of planned relocation that addresses issues of planning and implementation that went wrong.

Okada, T., Haynes K., Bird D., van den Honert, R., King, D. “Recovery and resettlement following the 2011 flash flooding in the Lockyer Valley.” *International Journal of Disaster Risk Reduction*. 2014. 8:20–31.

This paper discusses the resettlement of a community within the town of Grantham, in the Lockyer Valley, Queensland, Australia after flash floods in 2010-11. The resettlement process was based on a voluntary land-swap scheme. The paper analyzes the resettlement process from a local government perspective. It notes that several factors, including the relatively small size of the community’s population, the immediate availability of land for resettlement adjacent to the existing township, and sufficient funding, significantly facilitated the early-stage success of the resettlement. The paper also demonstrates that the government’s flexibility with regard to early community consultations and political strategies also facilitated a successful resettlement process.

This case study is of interest because it discusses a relatively successful post-disaster relocation project. The paper indicates that a small-scale resettlement, close proximity of resettlement areas, and engaged government agencies are factors that can contribute to positive relocation experiences.

Putro, P. B. S. *Social and Economic Impacts of the Sidoarjo Mudflow: Community Resettlement after Disaster*. Graduate School of Agricultural Science Tohoku University of Japan. 2012.
<http://www.jahss.org/2012/papers/2-A-4.pdf>

This paper looks at the socio-economic impacts of resettlement after the 2006 Sidoarjo Mudflow in Easter Java, Indonesia. It analyzes villagers' decision-making processes as to where to be resettled, as well as the effects of resettlement on household incomes. The paper articulates three resettlement patterns: 1) workers who tended to choose locations near the city center; 2) farmers who preferred to move as a group so as to maintain their social networks with other community members; and 3) traders, self-employed workers, and others who lost their jobs and were forced to live in severe hardship because of the relocation. An important insight from this paper is that different socio-economic groups might have different needs and wishes in terms of relocation and that many of those needs and wishes may be related to livelihood issues.

Ranghieri, F. and Ishiwatari, M. *Learning from Megadisasters: Lessons from the Great East Japan Earthquake*. Washington D.C: The World Bank. June 2014. **<https://openknowledge.worldbank.org/handle/10986/18864>**

This book aims to collect lessons learned from the Great East Japan Earthquake, focusing particularly on lessons that are of interest to developing countries. While a great range of topics are discussed, two chapters discuss issues related to post-disaster relocations in detail. The first chapter (Chapter 12) looks at the experiences of three villages/towns that have or have not relocated to higher areas after previous tsunamis. The second chapter (Chapter 33) discusses a number of case studies. As local governments were in charge of developing reconstruction plans, different communities developed different solutions to reconstruction, many of which included relocation to safer areas. The chapters conclude that relocation to higher areas in tsunami-prone areas should be promoted where feasible, as such patterns of relocation have been proven to save lives. The authors acknowledge the difficulties of relocations and note that they are challenging to implement. People who were willing to relocate right after a disaster may change their minds once the threat has passed and they realize that they prefer to live in the lowlands, which are more convenient for them. Also, in several communities, local governments were unable to reach a consensus with the local population about recovery and relocation plans. Significant out-migration after the disaster, as well as issues of livelihood, also complicated the relocation process. As with reconstruction, there is a trade-off between speed and quality in the relocation process. Consultation and consensus-building take time, which can significantly slow down relocation planning. The authors indicate that local governments are the appropriate level for recovery planning, but that the local authorities must be supported by the

central government in terms of legislation, funding, and technical support. Also, experts and civil society organizations have an important role to play in facilitating the recovery and relocation process.

This is a very detailed study on lessons learned. The document is also noteworthy because it demonstrates that each community may come up with differing decisions and solutions when it comes to relocations.

Salazar, A. “Disasters, the World Bank and Participation: Relocation Housing After the 1993 Earthquake in Maharashtra, India.” *Third World Planning Review*. 1 February 1999. 21(1):83.

This paper analyzes a participatory resettlement project for 83 villages jointly led by the World Bank and the government of Maharashtra, India after the 1993 Maharashtra earthquake. The relocation process led to many problems, which, according to the author’s evaluation, can mainly be blamed on a lack of community participation in the planning process, the construction of socially inadequate housing, the poor quality of the buildings, and an erosion of extended family networks. In particular, the document notes that the World Bank and the local government ignored research by the central government that stressed a need to use local skills and materials in the reconstruction process. By failing to heed this research, the relocation project disenfranchised local artisans and led to ongoing vulnerabilities within the resettled villages.

This is another paper that brings to the fore a number of practices that should be avoided when conducting post-disaster relocations.

Stal, M. “Flooding and Relocation: The Zambezi River Valley in Mozambique.” *International Migration*. June 2011. 49(s1):125–145.

This paper discusses post-flood relocation projects after the 2001 and 2007 floods in Mozambique. After the 2001 floods the government, in cooperation with international organizations, moved displaced persons to resettlement areas and provided land for the displaced persons. As little other support was given by the government, many people returned to their places of origin and many were again displaced by floods in 2007. After the 2007 floods the government agreed to a broader assistance scheme with supplying assistance to construct brick houses in the resettlement areas. The research shows that while many respondents returned to their low-land plots for livelihood reasons after the 2007 floods, many were happier to have a flood-resistant housing option in the resettlement centers, but complained about the limited farming options in the surroundings of the centers. The construction of the housing also led to deforestation, which in turn leads to soil erosion and changes in water tables.

The paper gives a good account of the importance of livelihood issues when planning for relocations. It also cautions about the need to consider possible secondary environmental impacts that relocation projects might have.

Taiban, S. “From Reikai to Labelabe: Disaster and relocation on the example of Kucapungane, Taiwan.” *Anthropological Notebooks*. 2013. XIX/1:59-76.

The article researches a relocation project, where after the 2009 Typhoon Morakot, the Taiwanese government relocated three indigenous villages. It highlights the cultural and livelihood needs of the indigenous community that were not taken into consideration by the government in the relocation process, in particular, as a plan for a “Sustainable Settlement Development Area” was scrapped with three villages being moved to the resettlement area that was initially planned to be for only one village. The research suggests that relocation methods should be reviewed, and due consideration be given to land, culture, education, and economic livelihood issues in newly established areas. The article points out well on how a lack of consideration for socio-cultural issues can lead to bad outcomes from planned relocations, particularly if the process concerns indigenous peoples.

Timm, B. F. “The (Mis)Use of Disaster as Opportunity: Coerced Relocation from Celaque National Park, Honduras.” *Antipode*. 2011. 43(4).

This paper discusses the post-disaster relocation of communities from Celaque National Park in Honduras after Hurricane Mitch as an instance of disaster capitalism. It notes that while the proximate cause of relocation was a natural disaster, the ultimate cause was the coercive implementation of a national park model based on the exclusion of human occupation. The park management had, prior to Mitch, been given to an NGO that was co-founded and co-directed by the German GTZ. The NGO leadership, along with local municipalities, decided to provide reconstruction assistance only to those persons who relocated outside of the park. By moving outside of the park, many displaced persons experienced significant changes in their livelihoods. Many people sought work on coffee plantations, as they were no longer able to continue their traditional livelihoods, which had depended on their original locations within the national park. Furthermore, expansion of coffee plantations in the region threatened the sustainability of the national park area.

This paper draws attention to the need for international actors to be sensitive about local economic and political contexts, particularly when engaging with planned relocations. Further, it draws attention to possible unintended consequences that can be caused by planned relocations.

Uscher-Pines, L. “Health effects of relocation following disaster: a systematic review of the literature.” *Disasters*. March. 2009. 33(1):1-22.

This paper reviews the literature on the effects of reactive relocation on physical and mental health, and develops a conceptual framework to guide future research. As the paper includes a whole range of different types of displacement caused by disasters, it is not necessarily useful for the issue of planned relocations. Furthermore, the article is only able to draw a few overall conclusions. It highlights that most of the literature focuses on psychological health aspects, and one generalization is that relocated

individuals are more likely to experience psychological morbidity post-disaster. The study also highlights that disasters in the developing world are understudied.

While this paper does not look at any specific case studies, but rather gives an overview on the literature on health effects from relocations, it provides an important reminder that planned relocations, particularly in post-disaster settings, can cause many and severe health effects among the affected population. Furthermore, it highlights that both physical and mental health issues should be addressed before, during, and after planned relocations.

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