

Planned relocations, disasters and climate change

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As the theme of this conference makes clear, climate change is likely to lead to increased human mobility which will take different forms. The Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC), meeting in Cancun (COP 16) in December 2010, recognized the potential impact of climate change on the movement of people when it invited all parties to the Convention:

“to enhance action on adaptation under the Cancun Adaptation Framework ... by undertaking inter alia, the following: ... (f) Measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at national, regional and international levels.”²

In my presentation today, I'd like to focus on the third category of 'planned relocations.' In the literature on climate change-induced displacement, there are several different categories of potential movement induced by climate change which fall into this category. For example:

- people who need to be relocated from areas prone to sudden-onset natural disasters which are increasing in severity and intensity as a result of climate change (e.g. flood areas)³
- people who need to be relocated because their country or parts of their country face destruction from the effects of climate change (e.g. small island states facing sea level rise)
- people who are displaced because their livelihoods are threatened by slow-onset effects of climate change (e.g. drought, salinisation of water resulting from sea level rise) and who need to find new permanent homes
- people who need to be relocated because of either mitigation projects (e.g. production of agrofuels and hydropower plants) or large-scale adaptation projects such as sea walls, replanting of mangroves, and restoration of marshlands

Walter Kälin, former Representative of the Secretary-General on the Human Rights of Internally Displaced Persons, posits that:

¹ With thanks to Michael Cernea and Robin Bronen for their comments on an earlier draft and to Daniel Petz for his valuable research assistance.

² UNFCCC, Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention, CP 16, 2010, http://unfccc.int/files/meetings/cop_16/application/pdf/cop16_lca.pdf#page=3, para 14(f)

³ Note that such relocations may also be necessary for natural disasters which are not related to climate change, e.g. from the slopes of volcanoes or earthquake-prone areas.

“Disasters will increase the need for governments to *designate areas as high-risk zones* too dangerous for human habitation. This means that people may have to be (forcibly) evacuated and displaced from their homes and prohibited from returning there and relocated to safe areas. This could occur, for example, because of increased risk of flooding or mudslides due to the thaw of the permafrost in mountain regions, but also along rivers and coastal plains prone to flooding. The difference between this situation and the previous typology of disaster-induced displacement is that return may not be possible, thus becoming a permanent form of displacement until other durable solutions are found for those affected.⁴

When areas become uninhabitable because of the effects of climate change, it is likely that most of those who move will be individuals or families who decide that conditions are such that it is time to leave their homes and communities. Some will move to join families and friends; they will send children to school in other regions; they will follow established paths of both internal and international migration. Individuals and families will make decisions on the basis of the perceived risk of staying where they are, analysis of possibilities for settlement elsewhere, and available resources for making the move. They will not expect government assistance in selling their homes and property, providing housing, or supporting their integration into a new community. For those who migrate spontaneously, no one will monitor how they are doing in their new environment. For those who are displaced in larger numbers, whether internally or across borders, governments and international agencies may seek to provide assistance to them and to keep track of their numbers and needs.

When people move on their own, they are considered to be migrants. When they are forced to move, they are displaced. While the degree of voluntariness of the decision varies significantly, for both migrants and the displaced, the locus of control is with them. When people are moved as a community as a planned relocation, the locus of control is with others, usually the government. It should be noted that there are also a small number of cases such as two considered here – the Carteret islands in Papua New Guinea and Newtok, Alaska -- where communities decide as a group that they need to move in order to survive. This presentation looks at cases where for one reason or another, people are relocated in a planned and systematic way.

There are different definitions of relocation. The World Bank defines it as “a process whereby a community’s housing, assets, and public infrastructure are rebuilt in another location.”⁵ Others have emphasized other dimensions in defining relocation as the “permanent (or long-term) movement of a community (or a significant part of it) from one location to another, in which important characteristics of the original community, including its social structures, legal and political systems, cultural characteristics and worldviews are retained: the community stays

⁴ Walter Kälin, *Displacement Caused by the Effects of Climate Change: Who Will Be Affected and What Are the Gaps in the Normative Framework for Their Protection?*, paper presented to the IASC, 10 October 2008, http://www.brookings.edu/papers/2008/1016_climate_change_kalin.aspx

⁵ World Bank, *Safer Homes, Stronger Communities: A handbook for Reconstructing After Natural Disasters*, 2010 pl. <http://www.housingreconstruction.org/housing/toc>, p. 77.

together at the destination in a social form that is similar to the community of origin.”⁶ In other words, rather than a focus on the individual decision to move (an area which has become very much the domain of human rights experts and of lawyers), in planned relocations the focus is on communities (an area which is very much the domain of anthropologists, sociologists, and economists.)

Before setting out on the analysis of lessons learned from planned relocations, it is important to state up front that the experience of communities with planned relocations has been predominantly negative. In spite of valiant efforts by the World Bank and others, the fact is that communities suffer when they are moved. Or as Barnett and Webber observe in the context of climate change:

“Resettlement of entire communities to reduce their exposure to climate change has been proposed by some commentators, and is widely implied in discussions about climate-induced migration...it suffices to say here that groups who are resettled arguably face the greatest risks to their livelihoods and human rights, and assisting them will challenge the international community.”⁷

Disasters and Displacement

Statistics show that weather-related sudden-onset disasters have been increasing in the last decades⁸ and predictions are that as a result of ongoing climate change they will become still more frequent and at least certain types of disasters will become more severe.⁹

There is surprisingly little research on displacement caused by natural disasters although there is occasionally acknowledgement that different types of disasters cause different migration patterns. For example, drought tends to displace people via traditional migration routes over the longer term, while displacement from floods tends to be temporary. The assumption seems to be that most displacement from disasters is temporary – that when the flood waters recede or rainfall brings an end to drought – people will simply go back home. But there have been no systematic efforts to monitor the extent of displacement, processes of return, or the extent of secondary displacement in cases of sudden-onset natural disasters.

Displacement has historically been one of the main triggers of humanitarian engagement since the development of the international humanitarian system. As long as people are displaced – or at least are living in temporary shelter – the assumption seems to be that humanitarian assistance continues to be needed. Thus in Haiti, the continued presence of 1,000 or so (mostly spontaneous) settlements for (mostly) those displaced by the earthquake has been a manifestation

⁶ John Campbell, “Climate-Induced Community Relocation in the Pacific: The Meaning and Importance of Land,” pp. 57-79 in McAdam (ed.), *Climate Change and Displacement: Multidisciplinary Perspectives*, 2010, pp. 58-59.

⁷ Jon Barnett and Michael Webber, “Migration as Adaptation: Opportunities and Limits,” pp. 37-55 in Jane McAdam (ed.), *Climate Change and Displacement: Multidisciplinary Perspectives*, 2010.

⁸ See: EM-DAT: The OFDA/CRED International Disaster Database – www.emdat.be – Université Catholique de Louvain – Brussels – Belgium.

⁹ See: Intergovernmental Panel on Climate Change, *IPCC Fourth Assessment Report: Climate Change 2007, Working Group II: Impacts, Adaptation and Vulnerability*, 2007.

that continued engagement by humanitarian actors is still needed. Once people return to their homes or find other durable solutions to their displacement, the humanitarian phase of an emergency is usually seen as over and additional assistance with reconstruction or rehabilitation is seen as lying in the purview of development actors.¹⁰

And yet, in Pakistan one year after the massive floods that affected up to 20 million persons, millions of flood survivors were still without permanent shelter and struggling to access food. According to a report by Refugees International, 5.6 million people in flood-affected areas remain food insecure and alarmingly high numbers are malnourished with 9 million people who lost their homes in last year's floods still lacking secure shelter.¹¹ Meanwhile the 2011 monsoon season has led to renewed floods, affecting some 5.3 million people and damaging or destroying up to 1.2 million houses.¹²

In general people do not want to leave their homes. There are many examples where people have remained in their damaged housing and, even when provided with better housing in safer areas, have chosen to return on their own to their communities of origin. Thus in Turkey, while a new town, New Gediz, was built to replace the original city (destroyed by an earthquake in 1970) Oliver-Smith found that the original city, known as Old Gediz, was reoccupied and soon reached its original population.¹³

Learning from experience

While humanitarian actors have considerable experience in dealing with displacement in a variety of contexts and thus are at least somewhat prepared to engage in the challenges of responding to people displaced by the effects of climate change, they have much less experience and understanding of planned relocations. Most of those who have worked on planned relocations in different contexts have done so from a development background where the terminology, legal basis, timeframe and modes of action are very different from the experiences of humanitarian actors. As I have explored previously,¹⁴ approaches to planned relocations, to displacement and to migration have effectively been developed in isolation to one another.¹⁵

In this presentation, I would like to explore four groups of experiences which are useful for thinking about planned relocations which may be necessary because of the effects of climate change and to illustrate each group with specific cases:

¹⁰ This transition from humanitarian to development actors has never been smooth.

¹¹ Refugees International, *Pakistan: Flood Survivors Still Struggling to Recover*, August 2011.

¹² AlertNet, "Slow 2010 flood-recovery stokes new crisis in Pakistan", 14 September 2011, <http://www.trust.org/alertnet/news/slow-2010-flood-recovery-stokes-pakistan-new-crisis/>

¹³ Anthony Oliver-Smith, "Successes and Failures in Post-Disaster Resettlement," *Disasters*, vol. 15, no. 1, pp. 16-17.

¹⁴ Elizabeth Ferris, *Climate Change and Internal Displacement: A Contribution to the Discussion*, Prepared for UNHCR Roundtable at Bellagio, 22-26 February 2011.

¹⁵ There is, however, more congruence between migration and displacement as a result of work on issues such as 'mixed migration flows' and the involvement of migration organizations, such as IOM, in large-scale displacement, for example through IOM's responsibility for camp coordination and management in situations of natural disasters.

1. Resettlement of people displaced by development projects (development-forced displacement and resettlement, DFDR). While I have previously written about the lessons learned from development-forced displacement and resettlement,¹⁶ in this paper, I look briefly at two cases, one of which is considered to be an extremely bad example of DFDR, the resettlement from Banaba Island in the Pacific in the 1940s and one very successful case of DFDR, the Xiaolangdi resettlement project in China in the 1990s.
2. Resettlement of people as a response to disaster or as part of post-disaster recovery, again, focusing on a case generally evaluated negatively – resettlement during the Ethiopia drought/famine of the mid-1980s – and a more positive case – the resettlement of Mozambicans from flood-prone areas in the early 2000s.
3. Preventive resettlement of populations at risk of disaster, with particular reference to examples from Latin America as collected by the World Bank.¹⁷ Since preventive resettlement is usually used in areas which have suffered previous disasters, this can in fact be seen as a subset of resettlement in response to a disaster.
4. Resettlement of communities because of the current effects of climate change: the case of the Carteret Islands in Papua New Guinea and of the Newtok community in Alaska.

Development-forced Displacement and Resettlement (DFDR)

Since 1980, the World Bank has been working to make the issue of resettlement of relocated populations an integral (and not incidental) part of development project planning by issuing Operational Guidelines on resettlement. Since then they have been revised several times, most recently in 2001.¹⁸ The regional development banks -- African Development Bank, Asian Development Bank, and InterAmerican Development Bank as well as the Organization for Economic Cooperation and Development (OECD) -- have all developed guidelines for involuntary resettlement. In addition, the UN in 2007 issued guidelines on forced evictions.¹⁹

The scale of development-induced displacement is enormous. Estimates are that 280-300 million people have been displaced by development projects, particularly dams, in the last 20 years and that 15 million people are displaced annually.²⁰ Construction of dams, highways, transportation infrastructure, and energy development are probably the best known of development activities requiring the permanent relocation of populations, but DFDR also

¹⁶ Ferris (2011), *op. cit.*

¹⁷ Elena Correa (edi.), *Preventive Resettlement of Populations at Risk of Disaster, Experiences from Latin America*, Global Facility for Disaster Reduction and Recovery, 2011, <http://www.gfdr.org/gfdr/node/903>

¹⁸ World Bank, Operational Manual, OP 4.12 – Involuntary Resettlement, 2007, <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20064610~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html>

¹⁹ OHCHR, *Basic Principles and Guidelines on Development Based Evictions and Displacement*, 2007, http://www2.ohchr.org/english/issues/housing/docs/guidelines_en.pdf

²⁰ Michael M. Cernea, Hari Mohan Mathur (edi.), *Can Compensation Prevent Impoverishment, Reforming Resettlement through Investments and Benefit-Sharing*, 2008, p.20. Interestingly, these estimates are already a decade old and there are no more recent estimates of those displaced on an on-going basis by current development projects.

includes urban development projects, agricultural expansion, parks and forest reserves, and population redistribution schemes which also displace people. Since many of these large-scale projects require international financing, the major international financial institutions have exercised considerable influence in ensuring that the relocations of affected people are carried out in accord with recognized guidelines and standards. In some cases, governments have chosen to finance the projects themselves so as to avoid being subject to these restrictions. Thus in the case of the Three Gorges Dam, which displaced 1.3-1.4 million people over an 8 year time period, the Chinese government chose to finance the US \$25 billion project on its own²¹ – and to carry out the resettlement of affected populations without being bound by development bank guidelines.

The basic principles on which existing guidelines for DFDR are based can be summed up in a few sentences. Involuntary resettlement should be avoided where feasible. Where it is not feasible to avoid resettlement, the scale of displacement should be minimized and resettlement activities should be conceived and executed as sustainable development programs based on meaningful consultation with displaced persons. Displaced persons should be assisted to improve their livelihoods and living standards at least to the levels they enjoyed before the displacement.²²

People who are displaced by development projects risk a sharp decline in their standards of living. Michael Cernea's impoverishment and reconstruction model identifies the common risks of such displacement: landlessness, joblessness, homelessness, marginalization, food insecurity, increased morbidity and mortality, loss of access to common property, and social disintegration.²³ If left unaddressed, these embedded risks result in massive impoverishment. Particular groups may be especially affected, as noted in the World Bank's *Operational Manual*: "Bank experience has shown that resettlement of indigenous people with traditional land-based modes of production is particularly complex and may have significant adverse impacts on their identity and cultural survival."²⁴

We turn now to an analysis of two cases of DFDR, acknowledging upfront that these two cases are in no way comparable. I quite simply looked for examples of the very best and the very worst cases of such relocations, hoping that lessons can be drawn by looking at the extremes.

Banaba Island²⁵

Banaba island is a small (6.5 square km) raised, rocky island just south of the equator, settled mainly by migrants from Melanesia. In 1900 high-grade phosphate was discovered on the

²¹ BBC News, "Three Gorges dam wall completed", 20 May 2006, <http://news.bbc.co.uk/2/hi/asia-pacific/5000092.stm>

²² World Bank, *BP 4.12 - Involuntary Resettlement*, para. 15., December, 2001

²³ Michael Cernea "Risks, Safeguards and Reconstruction," in Michael M. Cernea and Christopher McDowell, eds., *Risks and Reconstruction: Experiences of Resettlers and Refugees*, Washington, DC: World Bank, 2000, and Michael Cernea, *Public Policy Responses to Development-Induced Population Displacements*, Washington, DC: World Bank Reprint Series: Number 479, 1996.

²⁴ World Bank, *OP 4.12*, para.9

²⁵This account relies on Julia Edwards, *Phosphate mining and the planned relocation of the Banabans to Rabi Island, Fiji, 1945*; Fiji: Pacific Conference of Churches, May 2011. Also see John Campbell, *op. cit.*, pp. 72-76.

island, a component of fertilizers much in demand by Australia and New Zealand. To ensure continued exclusive access to the supply of phosphate, the British government annexed the island in 1901, making it part of the British Gilbert and Ellice Island Group. Mining began in 1901 under an arrangement in which the British acquired mining rights for 999 years for £50 per annum. Mining expanded rapidly with the British Phosphate Company (BPC) established as a monopoly. The reaction of the native Banabans was mixed; there were objections to the degradation of the land by the large-scale mining operations and yet the populations' standard of living improved with the influx of funds. Mining operations continued until the invasion of Japanese forces in 1942. At that time, most of the population was relocated; those who remained under Japanese occupation suffered greatly with casualty rates approaching 67 percent. After the war, the remaining Banabans were gathered by the British government on the island of Tarawa and told (untruthfully) that their island was no longer fit for habitation and that they would have to be resettled. In fact, even before the Japanese invasion, the British had taken the step of purchasing the island of Rabi from Fiji, using revenues from the phosphate mining operations in preparation for the resettlement of the Banaban population. The British recognized that the phosphate deposits would eventually be worked out, the population would have to be moved, and that this was an opportune time for their resettlement. Even as the Banabans -- weakened by their experience of being occupied by the Japanese -- were being relocated en masse to Rabi island in northern Fiji (a distance of some 3,200 kilometers), the British were importing migrant workers from the nearby Gilbert and Ellice Islands to work the phosphate mines on Banaba Island. Mining continued until the phosphate deposits were completely depleted in 1979, leaving the island devastated and no longer fit for human habitation.

The decision to relocate the Banabans was made by the British government on the basis of commercial interests. There was no participation by the community in the timing or destination of the resettlement. (In fact, the Banabans had been aware that they would need to relocate at some point in the future and had decided on another island in Fiji, Wakaya Island, as a possible site.) When the Banabans arrived in Rabi, British authorities told them that their stay was to be a temporary one, for a maximum of two years while their properties were being repaired in Banaba at the end of which time they would be free to decide whether to settle permanently in Rabi or to return to Banaba if, as a community, they wished to do so. In 1946, community representatives returned to Banaba with the idea of assessing the rebuilding process. Instead they found that all buildings had been razed to the ground and their lands had been cleared in preparation for continued mining operations. In 1947 the community elected narrowly to remain in Rabi, supported with royalty payments from the mining operations.

The resettlement itself was guided by a fairly primitive resettlement plan which provided tents, basic food rations and basic household supplies. When the Banabans arrived in 1945, there were only a handful of people living on the island, mostly migrant workers working on the copra plantations. A resettlement plan for 700 people was devised by the administrative officer although 1000 people arrived and when the Banabans disembarked, they found the supplies to be inadequate. Those organizing the resettlement apparently did not devote much thought to the future livelihoods of the resettled population.

The resettled Banabans encountered a host of problems on Rabi. After living in tents for six months in 1946, they settled in four dispersed villages along the coasts of the island. Livelihoods were particularly difficult to restore; while the Banabans were highly skilled at deep-sea fishing in the seas around Banaba, they knew little of the fishing opportunities on the shallow reefs around Rabi. Nor were they familiar with land animals, such as cows, which lived on Rabi or with growing agricultural crops. While the Banabans had enjoyed relatively good employment opportunities with the BPC on their island before relocation, in Rabi they found a very different reality. Some worked on the copra plantations, some received compensation from the ongoing mining back in the Banabans. But twenty years after resettlement, only a third of the Banaban households on Rabi reported having regular paid employment. Women were particularly disadvantaged.

In 1965 the Banabans began legal proceedings in British courts for compensation. After a long and tortuous process, the Banabans eventually accepted a settlement of AUD10 million (taken from the BPC's revenues) – a small sum in comparison with the amount given to Nauru, a nearby island also devastated by phosphate mining. Mining on Banaba ended in 1979, leaving less than ten percent of the island's surface intact and virtually no possibility for the Banabans to return. Today, housing in Rabi is of good repair and of a comparable standard with many areas in rural Fiji. All homes have piped water and some access to electricity through communal generators. However, employment opportunities are still limited.²⁶

While the Banabans did benefit from being relocated as a community, the difficulties of their war-time experiences had damaged their mutual support networks and sense of community. Since Rabi was so sparsely populated, there was little opportunity of integrating into the host community and in fact there was some tension in the early period.

Today the Banabans' situation is politically intriguing, and perhaps unique in the world. While 200-300 Banabans reside on the island as a sort of "holding" presence on the island. Banaba comes under the authority of Kiribati (formerly Gilbert and Ellice Island Group.) The Rabi Council of Leaders governs Rabi, which falls geographically and politically under the Republic of Fiji government, though there is no automatic representation of the Banaban community in any Fiji government sphere. Individual Banabans are Fijian citizens.²⁷

At the end of the day, the island had been devastated, toxic waste was left behind, and the Banabans had no sovereign rights to the island which became part of Kiribati on its independence. The mining saw 20 million tons of land removed from the island. However, even after more than 60 years since their removal, the islanders still maintain a Banaban identity. Most of the estimated 7,000 Banabans alive today live either in Rabi or in the other main islands of the Fiji group. Although the process of relocation had been painful, Sigrah and King acknowledge that the decision to relocate the post-war community to Rabi "probably... saved our people. If they had decided on the alternative, which was to disperse Banabans throughout

²⁶ The Rabi Council of Leaders (RCL) is the main employer with 160 workers, 60 of which are part-time positions, and there has been only limited private entrepreneurship in the island.

²⁷ For census purposes, they fall under the Fijian category of 'Other'. The latest 2007 census shows that 2,721 people live in Rabi, 95% of whom are classed as 'Other.'

Kiribati and other Pacific Islands, it surely would have seen the extinction of our people as a race.”²⁸

As Campbell notes, this planned relocation occurred in the context of colonialism where the relocation was carried out with coercion in support of commercial interests and with little concern with participation of the affected communities. It also took place at a time and a place where there was little concern with passports.²⁹ Although I have included this as a case of DFDR, in fact, the relocation of the community did not result from a project intended to develop the island but rather was carried out to support the British Phosphate Company’s desire to maximize profits.

Xiaolangdi

Although there have been many critical studies of DFDR projects and various assessments of the failures of many of such projects, I asked the World Bank’s leading expert on DFDR for an example of a successful example in which people were resettled and was directed to the case of the Xiaolangdi Resettlement Project in China.³⁰ This project was intended to assist the government of China to resettle and improve the livelihoods of approximately 154,000 people (although the figure increased to 172,487) who needed to be resettled as a result of the construction of the Xiaolangdi Multipurpose dam and to minimize the effects of social adjustment of the resettlers and their host communities. The planning period for resettlement took place over five years 1986-91 with the project implemented between 1994 and 2004. Significantly, the resettlement initiative was conceived and implemented as a separate project on its own rather than simply being a component of the dam construction project.

The overall assessment of the World Bank is that the resettlement project met its objective: that the resettlers should not only restore but also improve their living standard. There were a number of reasons for the project’s success, particularly the emphasis on restoration of livelihoods, community participation, and strong governmental commitment and capacity. The project did not limit its livelihood development activities to the resettled population but also included the host communities. The project demonstrated flexibility in responding to changed circumstances, turning to a variety of income generation schemes when macroeconomic factors meant that the plan’s initial reliance on county industry turned out to be inadequate. The project resettler population consisted of four groups: rural farmers, urban residents, employees of enterprises and institutions and the host population. 91 percent of the total people affected were rural farmers who experienced improved livelihoods, housing, infrastructure and access to public services.

²⁸ Sigrah, K.R.. S.King, “Banaba-Ocean Island Chronicles: Private collections and indigenous record keeping proving fact from fiction,” paper given to The Pacific in Australia - Australia in the Pacific conference, QUT, Brisbane, 24-27 January 2006.

²⁹ Campbell, *op. cit.*, pp. 72-76.

³⁰ Discussion of this case is taken from Rural Development and Natural Resources Sector Unit, East Asia and Pacific Regional Office, World Bank, “Implementation Completion Report (IDA-26050) on a Credit in the Amount of SDR 79.9 Million (US\$100 million equivalent) to the People’s Republic of China for the Xiaolangdi Resettlement Project,” 29 Jun3 2004, report no. 29174.

Most of the resettler villages (a total of 227) moved as whole communities, so that social networks and kinship were maintained. Independent assessment indicates that the majority of the resettlers improved or restored their living standard. Full livelihood restoration was achieved for 70 percent of resettlers with the remaining 30 percent reaching about 80 percent of their targeted incomes. In part this was because the villagers desired to take a large portion of the livelihood restoration compensation and invest it in high quality schools, clinics, and infrastructure rather than on larger irrigation or commercial agriculture. The government is committed to achieving the full restoration of livelihoods for this 30 percent with funds set aside to provide the necessary support. Almost all resettlers moved into new houses in new villages with complete infrastructure and public facilities. Less than 1 percent of the total (1500 people) chose to take their compensation and resettle themselves on their own. These individuals either wanted to stay close to the reservoir or experienced internal conflicts with the village.

The towns were relocated with urban households enjoying new houses which were generally larger in space and better in quality than the homes they were forced to leave. The project affected 789 enterprises, all of which were compensated and have either restarted operations or switched to new operations at the new sites. All regular or long-term employees were reemployed in the same enterprises with additional jobs created for resettler laborers.

The host population which provided land for resettlement was made up of 545,024 people in 397 villages. This population lost part of their farm land for the project resettlement programs. Land compensation funds were delivered to all host villages, village lands were redistributed to affected households, and livelihood programs enabled them to improve their livelihoods through on-farm investment. In general, the living standard of the host population improved.

The World Bank reports that monitoring and surveys indicate a high level of satisfaction with infrastructure and access to public services, including safe water supply, electricity, drainage systems, village roads, schools, medical services, etc. The incidence of disease has been reduced to 5 percent compared to pre-resettlement conditions. It should be noted, however, that while 70 percent of the affected population have improved or restored their income level, the remaining 30 percent reached up to 80 percent of their previous income levels.

While village committees were responsible for village infrastructure construction, the resettler households were responsible for their constructing their own houses. “While the government and the design institutes played the leading role, the resettler communities were the actual driving force in the project.”³¹ Women, children and vulnerable groups accounted for the majority of the resettlers and women participated in the entire process of project planning and implementation. About 3 percent of the total resettler population was identified as vulnerable (elderly, persons with disabilities, households without labor, the widowed and the extremely poor) and plans were made to ensure that their specific needs were taken into consideration. For example, 62 nursing homes were established.

³¹ Ibid, p. 12.

The cost of the resettlement project was US\$840 million³² of which 35 percent (\$295 million) was for infrastructure development, land acquisition and commercialization. This represents a per capita cost in the range of \$5,000 per person.

Why was the project so successful? The project used a development approach, there was high public support for the project from all sectors, including the host governments and population and a consultative and participatory planning process was implemented. The sites chosen for resettlement locations were generally favorable for future development, there was sound financial management, and environmental protection components were introduced from the beginning.

In its section on lessons learned, the report found strong government commitment to be critical to the successful implementation of the project. The government established and staffed an extensive institutional structure. Institutional capacity and effective management systems were adequate and there was good coordination between the various local government authorities and central government agencies. There was independent supervision and monitoring of the process. Technical service of the project design institute supported the resettlement. The consultative and participatory process was critical to the development of plans that met the needs and expectations of the resettlers. There was high public support for the project from all sectors. There was timely funding for the project. In addition to these factors identified by the World Bank, I would add that the Bank's involvement certainly contributed to the project's success, not only in terms of funding and oversight but in terms of the substantial expertise the Bank has developed over the years in supporting good resettlement projects.

The two examples presented here are as different as night and day in terms of timing, objectives, scale, financing, participation, planning, management, government participation, international engagement, and outcomes. In a sense they represent the extremes of a continuum of resettlement experiences. Most resettlement projects undertaken in support of development projects fall somewhere in between these two experiences.

There are no comprehensive publicly-available studies evaluating all resettlement projects – not even within the World Bank or other multilateral development banks' purview – and it is thus difficult to draw definitive conclusions about the percentage of resettlement projects that were successful. But there seems to be a sense within the DFDR community that cases such as Xiaolangdi are the exception and that in the vast majority of cases, the resettled population is left much worse off than before the move. The successful case of Xiaolangdi,³³ however, does suggest that resettlement schemes do not always have to result in the impoverishment of resettled population. The important factors of both strong government capacity and strong involvement

³² The cost of the project was initially estimated at \$571 million, the higher actual figure reflects an increase in the number of resettlers and consequent increased cost of physical investment as well as an increase in market prices and compensation rates.

³³ While this analysis is based on the World Bank's assessment of Xiaolangdi as a success, it may well be that the case is quite so successful as depicted here. There are no publicly-available data, for example, on what has happened since 2004 to the 30 percent of resettlers whose livelihoods were not fully restored.

of the World Bank are ones which are unlikely to be duplicated in many of the countries for which planned relocations will be necessary because of the effects of climate change.

Resettlement in response to disasters

There are surprisingly few published case studies of resettlement after disasters although such initiatives are probably widespread. An exception is the World Bank's *Handbook on Reconstruction after Natural Disasters*³⁴ which examines the reasons why relocation is sometimes necessary after disasters, including the fact that some locations are inherently unsafe, that it may be too costly to ensure the safety of those living in areas subject to future disasters or that people have already been displaced. However, the handbook notes that relocation is often unsuccessful because of the inadequacy of new sites, the distance from livelihoods and social networks, socially inappropriate settlement layouts, the lack of community participation and under-budgeting of relocation costs.³⁵

Anthony Oliver-Smith's study in 1991 reviews the situation as of that time, finding that resettlement is more complicated than most post-disaster reconstruction experts think and that "...the consequences of resettlement itself may even be more grievous than the impact of the disaster."³⁶ He also explains that while such moves are often justified in terms of protecting people from the effects of future disasters, there are often economic motivations behind such movements:

Earthquakes and other disasters may also provide convenient pretexts for population concentration (and control), the conglomeration of population groups for national or regional development plans or the national integration of minorities, all of which may be issues of less than immediate local concern in the choice of sites for resettlement."³⁷

This theme is picked up by those writing about the possibility of planned resettlements in response to climate change. Barnett and Webber argue that permanent relocations of communities is unlikely to be necessary in the coming decades. "Where they are, climate change is unlikely to be the principal driver. Indeed, in the near future there is a danger that powerful actors will use the excuse of reducing community exposure to climate change in order to conduct forced migrations, for political or economic gain."³⁸

Oliver-Smith notes that there are more failures than successes in post-disaster resettlement and cites many cases where people returned to their original communities rather than remaining in the newly-designed sites. Like many of those coming out of the DFDR tradition, he argues that better technical expertise and community participation are the key determinants of success. In the successful cases he examines – Turkey, Iran and Peru – he argues that four factors -- site,

³⁴ World Bank, *Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters*, 2010, <http://www.housingreconstruction.org/housing/toc>

³⁵ *Ibid*, pp. 79-80.

³⁶ Oliver-Smith, *op. cit.*, p. 13.

³⁷ Oliver-Smith, *op. cit.*, pp. 14-15.

³⁸ Barnett and Webber, *op. cit.*, p. 53.

layout, housing and popular input – are the most important determinants of success. In today’s literature, much more emphasis is placed on livelihoods restoration. Finally he notes that in many dangerous situations, people simply refuse to relocate. His research in Yungay, Peru, for example shows that when people are faced with a choice between ecological risks and social hazards, they pick the ecological risks.³⁹ Similarly Hewitt notes that the widely reported desire of survivors to remain in or return to their devastated places of origin is often a source of conflict with governments and outside experts.⁴⁰

The World Bank’s *Handbook on Reconstruction after Natural Disasters* is more positive in tone than Oliver-Smith’s reflections twenty years earlier, but it is notable that they concur with Oliver-Smith’s assessment of both the factors for success and the reasons for failure. And indeed, the examples in the World Bank’s handbook are all more illustrative of the difficulties of resettlement than of shining success stories.⁴¹

All studies and evaluations identify the importance of popular participation in planning and implementation of resettlement schemes. And yet, those who are most vulnerable to natural disasters are likely to be poor and marginalized – groups which often enjoy little participation in public life in the best of times. Efforts to include them in resettlement planning are difficult at best; as Kenneth Hewitt put it, “those least likely to have a voice in public safety and risky developments are so often the ones to suffer most in disasters.”⁴²

As in the preceding section, I have chosen to illustrate post-disaster relocation with two cases: one, Ethiopia which is generally considered to have been a failure and the other, Mozambique, which while far from completely successful, did experience some positive dimensions.

Ethiopia

In the mid-1980s, Ethiopia experienced a major famine in which approximately 300,000 people died, 7.7 million were affected⁴³, more than 400,000 people fled to neighboring countries⁴⁴, and the international community mobilized a massive relief effort. In fact, this was the first case of a massive global outpouring of support in response to a natural disaster – an occurrence foreshadowing later response to the 2004 tsunami and the 2010 Haitian earthquake. But even as refugee camps were established in neighboring Sudan and thousands of metric tons of grain were delivered to malnourished Ethiopians, the Ethiopian government, ruled by an authoritarian Marxist regime known as the Dergue, embarked on a large-scale resettlement scheme. The

³⁹ Oliver-Smith, *op. cit.*, pp. 15, 20

⁴⁰ Kenneth Hewitt, *Regions of Risk: A geographical introduction to disasters*. Essex: Addison Wesley Longman Limited, 1997, p. 50. Note that this does not apply to the cases of the Carteret Islands in the Pacific and Newtok, Alaska (discussed later in this paper) as in both cases the communities themselves had decided that relocation was essential for their survival.

⁴¹ These include relocations in Honduras after Hurricane Mitch, in Sri Lanka and India following the 2004 tsunami, and 2008 Philippines following the 2008 Typhoon Frank. The last case is the only one which seems to have been largely successful although none of the other three can be considered as complete failures.

⁴² Hewitt, *op. cit.*, p. 30.

⁴³ Source: EM-DAT: The OFDA/CRED International Disaster Database – www.emdat.be – Université Catholique de Louvain – Brussels – Belgium.

⁴⁴ See Thomas P. Ofcansky and LaVerle Berry (eds.), *Ethiopia: A Country Study*, GPO for the Library of Congress, 1991.

There are no authoritative numbers of how many people were displaced within Ethiopia.

Ethiopian government claimed the north was drought-prone and over-populated and that people needed to be moved. The resettlement program was portrayed as a relief measure, which would shift large segments of the population to agriculturally rich and sparsely populated regions of the country.⁴⁵ Resettlement was also seen as an opportunity for socio-economic change and pursuit of “policies of socialist transformation through mechanization, villagization and cooperativization.”⁴⁶ The ‘humanitarian’ reasons given by the Ethiopian government, which was at that time ruled by the Dergue, a Marxist junta, have been heavily contested. Researchers see the famine in the north of Ethiopia as the result of both government agricultural policies as well as counter-insurgency military operations of the Ethiopian army. The resettlement operation was viewed as one of the attempts by the Ethiopian government and military to weaken the insurgency.⁴⁷

The resettlement program relocated approximately 600,000 people from northern Ethiopia to resettlement sites in the northwestern, western, and southwestern parts of the country.⁴⁸ The resettlement process occurred primarily in three phases: from November 1984 to May 1985, from October 1985 to January 1986, and from November 1987 to March 1988.⁴⁹

The government used both positive enticements and coercive measures to resettle the population, calling its authoritarian approach “bego teseno” which means “well meaning coercion” or “coercion for the good of others.”⁵⁰ As an enticement, food aid was prioritized to resettlement transit camps drawing many famine victims to move to the sites. However, from the beginning of the resettlement program in 1984, the government announced it would implement the plan without the consent of potential settlers.⁵¹ In the regions of Tigray and northern Wollo, where insurgents operated, the government employed force to recruit settlers and shot potential settlers who tried to escape. An estimated 50,000 people died during the resettlement process as a result of food shortages and lack of infrastructure at resettlement sites.⁵² Interestingly, the UN Emergency Office for Ethiopia (UNEOE) that was created to coordinate international famine relief efforts did not investigate any abuses by the Ethiopian government and military. Concerning resettlement it consistently played down reports of forcible resettlements and tried to rebut independent research into the program.⁵³ The resettlement program strained relations between the Ethiopian government and donors, most of whom declined to fund the resettlement program. However, four donors did support the Ethiopian government’s efforts: Italy, the Soviet Union, Canada and East Germany. A few NGOs assisted the government and some UN agencies

⁴⁵ Alex de Waal, *Evil Days: Thirty Years of War and Famine in Ethiopia*, Human Rights Watch, 1991, p.210.

⁴⁶ Francois Piguat and Alula Pankhurst, “Migration, Resettlement & Displacement in Ethiopia, A Historical & Spatial Overview,” in: *Piguat and Pankhurst, Moving People in Ethiopia, Development, Displacement & the State*, 2009, p. 11.

⁴⁷ See for example: Alex de Waal, *Famine Crimes, Politics & the Disaster Relief Industry in Africa*, African Issues, 1997, p 115-120, see also Cormac O Grada, *Famine, A Short History*, 2009, p. 254.

⁴⁸ Yntiso D. Gebre, “Promises and Predicaments of Resettlement in Ethiopia,” in Itaru Ohta and Yntiso D. Gebre (edi.), *Displacement Risks in Africa*, 2005, p.360.

⁴⁹ de Waal (1991), *op. cit.*, p. 210.

⁵⁰ Stephane Coutois et. al, *The Black Book of Communism, Crimes, Terror, Repression*, 1999, p. 694

⁵¹ Gebre, *op. cit.*, p.361.

⁵² de Waal (1991), *op. cit.*, pp. 213-215 and p. 223; see also Jason W. Clay, Bonnie K. Holcomb, “Politics and the Ethiopia Famine 1984-1985”, *Cultural Survival*, 1986, p. 102.

⁵³ de Waal (1997), *op. cit.*, pp. 123-124.

provided limited aid. The resettlement costs were estimated at around one billion birr or \$814 per person resettled in a country with a per capita income of US\$123.⁵⁴

Resettlement sites were hastily chosen and poorly prepared for settlement. Most sites were chosen three weeks before the beginning of the resettlement program. Agronomic or hydrological surveys were not conducted and settlers were unfamiliar with the local farming conditions.⁵⁵ In the Metekel resettlement site, one of the largest in the country, settlers were forced to live in compact villages and work on collective farms. Settlers were denied fundamental human rights such as freedom of movement, religion, and association. Seven years after Metekel was established it was still dependent on outside food aid.⁵⁶

Ill-planned resettlement sites also resulted in the displacement of local populations. In Metekel the government resettled approximately 82,000 people to an area which had a local population of only 72,000. The Metekel resettlement site displaced the local Gumuz population, who relied on the land for shifting cultivation and gathered food in the forests. Portions of the farmland, hunting/gathering areas, and fishing grounds of the host population were confiscated by the government. The drastic increase in the population and strain on the land led to violent conflicts between settlers and the host population.⁵⁷ Overall, the social, economic and cultural consequences for the resettlers as well as the local population were dire. Economically the project diverted important resources from other program and projects and the new settlements never became self-sufficient. As already mentioned, morbidity and mortality of resettlers was high, family separation and disintegration of institutions took a heavy toll and many resettlers were impoverished. Lowland diseases such as malaria presented new threats. Culturally, resettlers lost access to their homelands and burial grounds, while local people were dispossessed of sites of cultural importance such as sacred forests and burial grounds, only aggravating their grievances against the newcomers.⁵⁸

After the overthrow of the Dergue, the majority of settlers remaining in resettlement areas returned to their former homelands, only to find that their land had been redistributed, forcing those without strong social networks to join the ranks of the landless, rural poor or urban destitute.⁵⁹

Despite the avalanche of criticism of the resettlement undertaken by the Ethiopian government more than twenty years ago, the relocation of vulnerable populations has again been promoted by the current government since the drought of 2003. The 'Voluntary Relocation Programme' sought to resettle 2.2 million from the drought-prone central and eastern highlands to other rural areas. By 2009 over a million were relocated in this program. Unlike the earlier effort, relocation was to be voluntary – and resettlers could choose to return to their communities of origin within three years – but in practice implementation has been variable and reports of the impact of this relocation on people's well-being remain controversial. The government claimed

⁵⁴ Alula Pankhurst, *Resettlement and Famine in Ethiopia: The villagers' experience*, 1992, pp. 74-75

⁵⁵ de Waal (1991), *op. cit.*, p. 218.

⁵⁶ Gebre, *op. cit.*, pp. 364-365.

⁵⁷ Gebre, *op. cit.*, pp. 361-366.

⁵⁸ Pigué and Pankhurst, *op. cit.*, p. 12.

⁵⁹ Pigué and Pankhurst, *op. cit.*, p. 13.

in 2009 that more than 90 percent of those resettled were already self-sufficient in food. But academic critics of Ethiopia's resettlement program raised doubts: "how could these people be true volunteers when there was such poverty and desperation in the highlands, when farmers had been presented with such rosy views of what awaited them in the lowlands and when in some areas, it was alleged, there had been threats to cut food aid to those left behind?"⁶⁰

The question of resettlement of Ethiopians continues to be discussed. In 2011 as news of famine and drought in the Horn of Africa rocked the international community, the Ethiopian government announced plans to group its scattered semi-nomadic ethnic Somali pastoralists into permanent settlements. Unlike the example of the mid-1980s, the government insists that this time the resettlement is voluntary and consists of building up regional destinations instead of a mass cross-country exodus. The idea is that in the Somali region, which has around 1.5 million people, villages will be built near rivers and irrigation systems, roads, health clinics and schools will be constructed. This will have major implications for the pastoralist lifestyle and is probably fair to say that is engendering considerable suspicion.⁶¹

While the resettlement undertaken by the Ethiopian government in the mid-1980s was seen as politically motivated and unsuccessful in responding to the long-term needs of the population following the drought and famine, the case of Mozambique is a more nuanced one.

Mozambique

Unlike the situation in Ethiopia, Mozambique is generally considered to be an example of a strong government with a generally well-regarded national disaster response capacity. After a long civil conflict in which some 4 million people were displaced, Mozambique has in recent years revitalized its natural disaster response mechanisms, strengthened capacity at the local level, developed good contingency planning, and has generally had a good relationship with international humanitarian actors.⁶² Mozambique is a country which regularly experiences major flooding. But the extreme floods of the Limpopo River in the south of the country during 2000 were the worst to hit the country in 150 years. More than 700 people died, and over 550,000 lost their homes with some 4.5 million affected by the floods.⁶³ Extreme floods of the Zambezi River in the central region occurred in 2001, 2007, and 2008. Moreover, tropical cyclones – Eline in 2000 and Favo in 2007 increased the number of displaced. The floods of 2007 alone displaced over 100,000 people with 50,000 evacuated.⁶⁴ Flooding does not, of course, occur in a vacuum.

⁶⁰ Peter Gill, *Famine and Foreigners: Ethiopia Since Live Aid*, 2010, pp.103-4. See also: The Government Office for Science, London, *Foresight: Migration and Global Environmental Change*, Final Project Report, 2011, p. 177.

⁶¹ William Davison, "Ethiopia plans ambitious resettlement of people buffeted by East Africa drought," *Christian Science Monitor*, 1 August 2011.

⁶² International Dialogue on Strengthening Partnership in Disaster Response: Bridging National and International Support, Peter Walker, Colin Rasmussen, Sebastián Molano Background paper 3: Best Practice Experience at the National Level, September 2011, <http://www.ifrc.org/PageFiles/90118/Background%20paper%203.pdf>

⁶³ Frances Christie and Joseph Hanlon, *Mozambique and the Great Flood of 2000*, 2001, p. 37.

⁶⁴ Marc Stal, "Flooding and Relocation: The Zambezi River Valley in Mozambique," *International Migration*, IOM, 2011, vol. 49 (SI), pp. 126-144, citation from p. 128

Soil erosion, rising sea levels, deforestation, and wildfires have also increased the vulnerability of the country to frequent flooding events.⁶⁵

In immediate response to these two major floods, the government moved displaced people to accommodation centers and then to resettlement centers. IDPs were provided with plots and moved from accommodation centers to resettlement centers. The government promised to provide the IDPs with building materials to construct homes. The resettlement centers were built and continue to be built in flood-safe areas, close to schools, health centers and fertile fields. However, these flood-safe areas suffer from water scarcity and drought and many people returned to their communities in low-lying river areas after the floods because they could not grow crops at the resettlement centers. While all of this sounds good, interviews with the displaced show that people want to stay in the flood-safe areas of the resettlement centers but also to continue to work in the fields in the areas prone to flooding. A socio-anthropological study conducted for the National Disaster Management Institute by the Eduardo Mondlane University of Maputo and funded by UNDP Mozambique calls this group the ‘hippo people’ noting that: “The ‘hippo’ people, mainly women, move daily between their ancestral lowland plots and their higher resettlement plots. They don’t mind walking two hours per day, since the soil in the lower zones is fertile for agriculture, which is the main subsistence activity of the valley. Another group of the resettled ‘hippos’ migrates seasonally between their places of origin and the new villages.”⁶⁶

Research among the displaced found that most had never been migrants before; their decision to leave was motivated by the major floods of 2001 and 2007 or they were evacuated by the government.⁶⁷ Overall, the resettlement program after the 2007 floods planned to resettle more than 30,000 families in higher lying areas and to finish the construction of houses by December 2009. The government tried to ensure that people would remain in the resettlement areas by allowing community leaders to choose the resettlement areas (which then needed to be approved by the Ministry for the Coordination of Environmental Affairs). As a mechanism for technology transfer to local communities, groups of eight local individuals were trained by international NGOs⁶⁸ to “design and implement settlement expansion plans according to future local needs.”⁶⁹ The recurrence of floods in 2008 derailed the time plan of the project by adding 21,000 newly affected families to the program, expanding the scope of the project to 59,000 families and postponing the planned finalization of the project to 2010. The National Institute for Disaster Management in 2008 saw financing as one of the major problems as it estimated the total project costs at over \$120 million.⁷⁰

The floods of January 2008 revealed that in spite of the resettlement centers, people who had been displaced and resettled by the flooding of 2001 and 2007 had returned to the low-lying

⁶⁵ Ibid., p. 129

⁶⁶ UNDP, “The resettled, the “hippos” and the returned”, 16 September 2009, <http://www.undp.org/mz/en/What-we-do/Crisis-and-Environment/Press-Releases/The-resettled-the-hippos-and-the-returned>

⁶⁷ Stal, *op. cit.*, p. 133

⁶⁸ International Organization for Migration, “Community Volunteers assist in Mozambique flood response”, http://iom.org/za/site/index.php?option=com_content&task=view&id=74&Itemid=83

⁶⁹ National Institute for Disaster Management, Mozambique, Interim national progress report on the implementation of the Hyogo Framework for Action, 9 December 2008, p. 19.

⁷⁰ Ibid. p. 20

areas to be displaced again in 2008. People who stayed in the resettlement centers but farmed in the flood-prone areas lost their fields and are now dependent on international assistance for survival. Stal concludes that resettlement does not seem to be the best option to deal with the existing and future impacts of environmental change. Moreover, resettlement causes further environmental problems and leaves people still dependent on governmental and international aid. In a somewhat more positive study, Nielsen finds that in spite of inadequate planning and implementation of new settlement schemes in Maputo to respond to the needs of those displaced by the floods, the IDPs were able to develop new urban centers largely on their own and, in doing so, were able to enjoy new status as productive citizens.⁷¹

Once again flooding in 2011 led the government and UNDP to look at adopting a comprehensive land use planning policy to avoid new settlements in hazardous areas. They also suggested that people should stay in safer resettlement areas, perhaps keeping their houses on higher ground, while continuing to farm in the lower and risky but more fertile lands.⁷²

These two cases illustrate some of the difficulties in resettling people after a natural disaster. In the case of Ethiopia, resettlement seems to have been used primarily for political purposes and not to have been planned to respond to the needs of either those being resettled or to the host communities. 50,000 people are reported to have died as a result of the resettlement which is an extreme case of the negative consequences of the resettlement scheme. In the case of Mozambique, the government's intentions in resettling people away from flood-prone areas seem not to have been questioned. But the difficulties in securing livelihoods for people in the resettlement centers led many to return to flood-prone areas and thus to be displaced again when the floods recurred. The question of livelihoods again seems to be the key factor in the sustainability of resettlement following disasters. Most observers agree that the planning in the Ethiopian resettlement process was inadequate. Planning in the case of the 2007 resettlement project in Mozambique was severely altered by the recurrence of major floods in 2008, adding 21,000 families to the program and postponing the planning timetable. Attracting sufficient funding was also a challenge for the Mozambican government. While resettlement in Xialoangdi, China reportedly cost around \$ 5,000 per resettled person, the resettlement projects in Mozambique were based on a planning figure of \$ 2,000 per affected family.

As the World Bank's *Handbook on Reconstruction after Natural Disasters* points out, there are some important differences between resettlement associated with development projects and that occurring after natural disasters. The land from which people are resettled after a disaster is usually left vacant – rather than being occupied by a reservoir or highway – which means that people are more likely to return (or new settlers to occupy) the land at risk from natural disasters. The time available for planning is generally much shorter in the case of natural disasters than in development projects. Financing by international financial institutions generally requires a sound resettlement plan, with technical and financial support required by the planning process. These are factors that have not generally been associated with post-disaster reconstruction efforts. Moreover, in the case of a natural disaster, people may have been dispersed making it

⁷¹ Morten Nielsen, "Mimesis of the State: From Natural Disaster to Urban Citizenship on the Outskirts of Maputo, Mozambique," *Social Analysis*, vol. 54, issue 3, Winter 2010, pp. 153-173.

⁷² "Looking for more sustainable solutions for flood risks and disasters in Zambezi River basin," UNDP news release, 15 March 2011.

more difficult to resettle communities as a whole and complicating efforts to involve the population in resettlement planning and implementation.⁷³

Preventive resettlement as a disaster risk reduction measure

In contrast to the previous case where communities are resettled after a disaster occurs, there is some interest in resettlement as a way of reducing the risk of natural disasters – a situation directly relevant to climate change. A recent study by the World Bank examines the ways in which such “preventive resettlement” has been used. “Preventive resettlement of populations located in high-risk areas is a corrective measure in which all or part of a community is relocated because of the high risk of disaster. Such a measure should be seen as a last resort, when it is impossible to mitigate risk factors associated, for example, with landslides, the likelihood of volcanic eruptions or severe flooding that cannot be controlled.”⁷⁴

The *Handbook for Preventive Resettlement* makes a number of points about its use, including that it has the potential for improving the quality of life of those resettled, that comprehensive strategies are best, and that its use is different for different types of disasters.⁷⁵ For example, preventive resettlement is unlikely to be used as a protective strategy for tsunamis given the low likelihood of their occurrence in any given place, while they may be more effectively used in areas prone to landslides.

The Handbook, based on the Bank’s experiences with DFDR, outlines a process by which resettlement can be used to reduce the risk of disasters, including:

- Phase 1 consists of formulating a Disaster Risk Reduction (DRR) plan and determining the relevance of resettlement within that overall strategy, with an emphasis on the participation of affected communities.
- Phase 2 is ‘preparing to plan.’ In this phase attention must be directed not only at the community to be resettled, but also at the host community and population that continues to live at the site.
- Phase 3 consists of the analyses required to formulate a resettlement program, including comprehensive studies of the population, the land tenure system, and other social and economic factors impacting their ability to be resettled as well as conducting an inventory of property.
- Finally, Phase 4 consists of the process of formulating the resettlement program, including the importance of developing a contingency plan in case an emergency occurs before the resettlement process is completed as well as devising appropriate mechanisms for monitoring and evaluation.⁷⁶

⁷³ World Bank, *op cit.*, p. 82.

⁷⁴ Elena Correa, “Resettlement as a Disaster Risk Reduction Measure: Case Studies,” in *Preventive Resettlement of Populations at Risk of Disaster: Experiences from Latin America*, ed. by Elena Correa, World Bank, GFDRR, 2011, p. 19.

⁷⁵ Elena Correa, *Populations at Risk of Disaster: A Resettlement Guide*, The World Bank/GFDRR, 2011

⁷⁶ *Ibid.*, pp. vii-xi.

The companion volume examines four case studies where resettlement of populations was used to prevent further exposure to natural hazards. In Argentina, 11,911 families living in 120 localities were resettled from 1997-2006 as part of flood protection strategy adopted in 1993. In Brazil, some 5,137 families were resettled from 1995-2007 in São Paulo as part of a Streams Canalization Program to mitigate the worst effects of flooding. In Colombia 1,074 families were resettled in Bogota from areas of high environmental risk and finally in Guatemala after Tropical Storm Stan, 915 families were resettled as part of a governmental policy of reconstruction with transformation.

In their analysis of these cases, Carmona and Correa point to the need for careful planning, technical studies, inter-ministerial cooperation and community participation in the process as well as the need to set cutoff dates and decide what to do with the land from which people were resettled. They note that countries which have developed comprehensive risk management policies are those that have experienced major disasters, such as Colombia and Guatemala.

The four case studies illustrate different approaches to resettlement. In Colombia resettlement was part of land use planning; in Guatemala preventive resettlement was included in post-disaster reconstruction process. While in Argentina resettlement programs targeted population groups exposed to risk of floods, its program was largely dependent on foreign loans which made it more difficult to ensure sustainability. In Brazil, resettlement was part of an attempt to recover small urban watersheds but has not yet been incorporated into public policies.

The cases also illustrate that the ultimate aim of resettlement is to help people rebuild their livelihoods -- not just houses -- but a whole range of benefits from access to public services to social relations. In fact, she notes that “when resettlement is seen mainly as a new house in a safe place, resettled people often experience economic or social disruption.”⁷⁷ The four cases display diverse ways of finding housing solutions; some hired private firms to construct new houses, or developed partnerships with private firms and NGOs; some supported self-construction or provided cash compensation; and in some cases families exchanged houses or purchased pre-existing houses on the market. In all cases, governments had to subsidize housing costs because people were very poor. Also in all cases families were given deeds to their houses⁷⁸ although in some cases (Argentina and Guatemala), families were prevented from selling their houses for a time. Guatemala was the only country to assess the environmental impact of new settlements. For the resettled communities, resettlement also represented the transition from the informal to the formal sector – a transition which was difficult for many.

While this recent World Bank publication represents an important contribution to the literature on preventive resettlement, there are many other cases where governments have used resettlement as a preventive tool. In Chiapas, Mexico, following a devastating landslide in 2007, the state government implemented a plan of ‘rural cities’ (ciudades rurales) in which new communities were created in areas which were much safer from the effects of torrential rains. The planned community of San Juan de Grinalba was established in 2008 with 5,000 people after more than 300 meetings with the affected community. The project not only resettled people as a

⁷⁷ Sergio Carmona and Elena Correa, “Comparative Analysis of the Case Studies,” in Correa, ed., Case studies, p. 109.

⁷⁸Ibid. p. 111.

community, but also established public services, provided for livelihoods, and provided housing superior to that which existed previously. Government officials see this as an example of not only recreating the community in a safer location, but of development. As one government official noted, ‘these children now have access to the internet in their schools – something that would never have been possible before and which offers them new possibilities for the future.’⁷⁹

In another part of the world, the government of Uganda announced that half a million people will need to be moved from their homes in mountainous areas of the country because of the risk of landslides. The slopes of Mount Elgon about 170 miles north-east of Kampala was the site of major mudslides which killed 388 persons.⁸⁰ Musa Ecweru, Minister for Disaster Preparedness, said that 200,000 people living in the west would be among those who should be relocated.⁸¹ This followed devastating mudslides a year earlier which killed hundreds. Last year too, officials said they would relocate half a million people, but following local opposition, only a few thousand were actually moved.⁸²

Preventive resettlement has an obvious appeal: moving people before a disaster (or further disaster) occurs has the potential not only to save lives, but also to enable a more extensive planning process than is possible in the immediate aftermath of a disaster. But the record seems to suggest that this ‘preventive resettlement’ is usually used in areas which have already experienced a major disaster and indeed it is likely to be easier to persuade people to leave their homes and communities when they have seen the effects of disasters in their communities. It is hard to over-estimate the attachment people have to their homes and communities and their reluctance to be resettled to an unfamiliar area unless there is a perception of an overwhelming threat. To get people to voluntarily move from an area when there is not a perception of immediate risk is difficult, particularly in situations where trust in government (and governmental motivations) is lacking.

This is particularly relevant to discussions of planned relocations in the context of climate change. If people perceive the risk to their lives and livelihoods to be high, planned relocations are more likely to be considered – and even embraced. We turn now to the final two cases of this paper – cases in which the communities themselves have identified the need for relocation because of the effects of climate change, but where the response by their governments has been inadequate.

Climate change-induced relocations

The Carterets

Since the 1950s there have been reports of food shortage and compromised water supplies on the Carteret Islands, which are made up of five small islands off the coast of Papua New Guinea. These food shortages have stemmed from population increases, declining fishing, agricultural

⁷⁹ Personal communication with author, 28 September 2011, Chiapas.

⁸⁰ Source: EM-DAT: The OFDA/CRED International Disaster Database – www.emdat.be – Université Catholique de Louvain – Brussels – Belgium.

⁸¹ BBC News, “Uganda ‘to move half a million,’” 29 August 2011.

⁸² BBC News, “Uganda landslides: Villagers killed in Bulambuli,” 29 August 2011

production and the loss of coastal lands and unusually high (king) tides, probably as a result of climate change. The inability of the islands to sustain their population is usually depicted as the result of climate change although it is difficult to determine direct causality.

These environmental and demographic changes made it impossible for the local communities to produce sufficient food for their population and have access to adequate supplies of fresh water. In recognition of the need to relocate this community, the government of Papua New Guinea organized a resettlement scheme in 1979 and land was set aside in Bougainville, but the transition was more difficult than expected. It is unclear what happened to the resettled families while in Bougainville, but the fact that there was a long and violent conflict there led the resettled people from the Carterets to return home in 1989. Another group was resettled in Bougainville in 2009, but only three months later, it was reported that the men had returned home, blaming frequent arguments with Tinputz landowners over land and a lack of livelihoods.⁸³

Since then, two agencies, the Bougainville Autonomous Regional Government and Tulele Peisa, a local community-based organization dedicated to the relocation, are working independently in the resettlement process. Tulele Peisa's program aims to relocate 50 percent of the islands island's population to Bougainville (i.e. 1,350 individuals) by 2020. Not unlike previous experiences, this has been a difficult process to date.⁸⁴ Aside from finding funding for the program and logistical issues, integration with local host communities and the re-establishment of livelihoods are some of the key challenges in the resettlement programs. The Bougainville authority has received 2 million kina (around US\$900,000) from the national government and is reportedly close to securing 600 hectares of land at Karoola, an hour's drive west of the town of Buka on Buka Island. The government has reportedly been working for the past three year to develop a memorandum of understanding with the group to be resettled.⁸⁵ Tulele Peisa, working at a smaller scale, was given 71 hectares by the Catholic Church at Tinputz on the larger island of Bougainville.⁸⁶

Resettlement of indigenous groups is particularly difficult as such communities usually have strong ties to the land. In the case of the Pacific, Barnett and Campbell point out that the link between communities and customary land and marine areas in the Pacific is extremely strong which makes resettlement for Pacific communities a devastating experience, not only for the resettled population but also for the communities that have to give up land for migrants from elsewhere.⁸⁷

⁸³ Campbell, *op cit.*, p. 70.

⁸⁴ See : Jennifer Redfearn, *Sun Come Up*, Documentary, 2010, see also: Tulele Peisa, <http://tuelepeisa.org/>, see also: Brookings-LSE Project on Internal Displacement, UN OCHA, OHCHR, *Synthesis report, Regional Workshop on Internal Displacement caused by Natural Disasters and Climate Change in the Pacific*, Pacific Island Forum Secretariat, Suva, Fiji, May 4-6, 2011, http://www.brookings.edu/events/2011/0506_idp_fiji_workshop.aspx

⁸⁵ Maranne Loughry, Jesuit Refugee Service, "Relocation, Adaptation, and Internal Displacement in Papua New Guinea," Paper presented at Conference on Climate Change and Migration in the Asia-Pacific, UNSW Law School, 10-11 November 2011.

⁸⁶ Julia Edwards, "The Carteret Islands: First man-made climate change evacuees still await resettlement," Pacific Council of Churches, 2010, www.pcc.org.fj/docs/Julias%20Cartaret.pdf

⁸⁷ Jon Barnett and John Campbell, *Climate Change and Small Island States, Power, Knowledge and the South Pacific*, 2010, p. 174.

The Newtok community in Alaska

In a fascinating (and sadly disturbing) article, Robin Bronen explores the situation of one indigenous community living in Newtok, Alaska whose habitat has been seriously compromised by the effects of climate change.⁸⁸ She points out that winter temperatures have increased an average of 2-3.5 degrees since 1975 causing the rapid disappearance of ice, increased erosion, increased exposure of communities to autumnal storms and to the thawing of the permafrost (or permanently frozen subsoil) which is the ‘glue’ that keeps the land intact and habitable. This small community of about 300 people living in a traditional Yup’ik Eskimo village in far western Alaska has experienced severe erosion as a result of the melting of ice and the corresponding changing of the course of the Ninglick river moving it closer to the village of Newtok. Erosion is also consuming the tundra pond providing water to the community. Thawing permafrost, coupled with an increase in extreme weather events has led to increased flooding, which in turn has led to a compromised water supply and to the destruction of the sewage system, leading raw sewage to be released in the area, resulting in an increase in disease.

Inaccessible by road, the village depends on the arrival of a barge to deliver fuel in order to provide electricity. And yet the ramp used for docking and unloading the barge has been lost due to the combined effects of flooding and erosion. The barge ramp cannot be rebuilt because of erosion. While the community identified another site for a barge ramp, it ran into a roadblock of restrictions on the use of government funds in such cases. Specifically US government disaster funds can only be used to rebuild facilities at their original site; in the case of the barge ramp used in Newtok, this is impossible because of erosion. Similarly, the government has been reluctant to build new infrastructure, such as a new sewage disposal system, on an existing floodplain and on thawing permafrost.

Over the past decade, the US Army Corps of Engineers has studied the situation and concluded that relocation was the best alternative, but bureaucratic and legalistic obstacles have prevented the establishment of funds to relocate the community – a measure which is desired by the community itself. Bronen points out the shortcomings in US law to assist people affected by the effects of climate change to relocate to another area. Even when the effects of climate change are obvious not only to village residents but to US government agencies and even when the community has concluded that resettlement is the only way for it to survive, national laws and policies are inadequate to meet the needs of communities for relocation.

The Carteret Islands and Newtok, Alaska are worlds apart, but both cases illustrate the need for planned relocation in response to the effects of climate change. Unlike the other cases in this study, the communities of both the Carterets and Newtok have come to the painful realization that relocation of their communities is essential to their survival. It is likely that there will be many such communities in the future for whom permanent community relocation is the only feasible solution for survival. This is likely to occur in the Arctic, in small island states, in areas damaged by erosion caused by fiercer storms and flooding resulting from climate change. The two cases also illustrate the shortcomings in governmental response to communities which have

⁸⁸ Robin Bronen, “Climate-induced Community Relocations: Creating an Adaptive Governance Framework based in Human Rights Doctrine,” *New York Review of Law and Social Change*, vol. 35, 2011, pp. 356-406.

asked for support in resettlement. In both cases, the governments have accepted the need to move the communities, but have been unable to muster the necessary financial resources (in the case of Papua New Guinea) or modify existing legislation to provide the necessary support (in the case of the United States.) It should be noted that the populations of both the Carterets and Newtok are very small -- together numbering less than a few thousand people. The fact that two countries in widely different economic circumstances have found it so difficult to find the necessary funds to support relocation suggests that much more attention is needed on the financing mechanisms of planned resettlement made necessary by the effects of climate change.

Conclusions

The effects of climate change are likely to lead people to move, whether through migration, displacement or planned relocations of entire communities. This brief review of several cases where populations have been resettled because of development projects, natural disasters or already-apparent effects of climate change suggests that planned relocations should be approached with extreme caution.

In some cases, such as Banaba island, people were resettled for crass economic reasons: the mining company wanted to conduct its operations without the inconvenience of the native population. In Ethiopia, the resettlement of populations from the north had clear political motivations. Poorly planned and implemented, 50,000 people died as a result of the resettlement program and those who survived chose to return to their original communities as soon as they could. The experience of communities resettled away from floodplains in Mozambique suggests that if livelihoods are not restored, people will move back (either permanently or temporarily) to dangerous areas in order to work their fields. The one clear success story – the Xiaolangdi resettlement project – seems to have been a product of political commitment, laborious planning, and substantial financial resources. (And although presented as a success, it should be noted that 30 percent of the resettled population earned less than 80 percent of their pre-resettlement income.) The two other cases – the Carteret Islands and Newtok, Alaska – represent a different set of concerns. In both cases the communities themselves recognize that the land can no longer support them as a result of the effects of climate change and yet their governments have been unable to provide the necessary support for their relocation.

The first principle of DFDR is that resettlement should be avoided if at all possible and used only as a last resort. This study confirms that principle and further suggests the importance of making an all-out effort to mitigate the effects of climate change. Far from an easy fix, relocation of communities is a brutal, painful experience which almost always leaves communities worse off. In terms of the lived experience of those affected, it has much more in common with forced displacement than with voluntary migration. As Barnett and Weber explain, “[m]oving communities in anticipation of climate change may precipitate vulnerability more than it avoids it. If community relocation is absolutely unavoidable, then its social and political costs can be minimized by allowing adequate time for community consultation and planning.”⁸⁹

The literature on resettlement has overtones of social engineering – of using our knowledge of social, economic and cultural factors to produce solid outcomes – but the actual experiences of

⁸⁹ Barnett and Weber, *op cit.*, p. 54.

resettlement suggest otherwise. There are, of course, many more cases of relocations which offer more nuanced understandings of the resettlement process, but almost all of them indicate shortcomings in the planning process, usually around livelihoods or land,⁹⁰ suggesting the limits of social scientists to predict the full range of consequences for resettled communities.

The Xiaolangdi case suggests that community participation in decision-making, comprehensive technical studies, government commitment and a development approach which emphasizes livelihoods are key factors in enabling better outcomes for both resettled and host populations. Xiaolangdi also suggests that successful resettlement requires substantial financial commitments. In looking at geographical areas where climate change is likely to make areas uninhabitable – whether through increased drought in regions of Africa or rising sea levels in Asian megadeltas and Pacific Island states – it is difficult to see the necessary political capacity and sufficient funding to enable the needed technical studies and participatory processes crucial to the success of planned relocations. While it seems that the international community is prepared to commit some funding for adaptation projects, so far most of these projects have focused on construction of physical infrastructure. But if adaptation strategies are to include planned relocations, then funding needs to be made available to support minimum basic international guidelines (to avoid a repetition of the experiences of Ethiopia or Banaba island) to guide government actions and to support government efforts to plan – on a contingency basis – what would be needed in the event that relocation of communities is necessary as a last resort. Perhaps an obvious starting point would be the Carteret Islands as a case where the commitment of funds, political will, and the necessary technical expertise could make a difference in a community already suffering the effects of climate change.

⁹⁰ See, for example, the short case studies presented in *Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters*, pp. 83-85.