Chinese Perspectives on Climate Change and Resettlement

Background paper to the Population-Environment Research Network (PERN) Cyberseminar, "Preparing for Population Displacement and Resettlement Associated with Climate Change and Large Climate Mitigation and Adaptation Projects" (November 2011)

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Abstract: *This contribution seeks to address which regions of China are most likely to require resettlement and outlines how the 'environmentally-driven resettlement' (also known as 'ecological migration' and various other names) is being managed in the Chinese context. It shows that organized resettlement would become an increasingly important strategy for adapting to climate change in regions that are more vulnerable to climate change impacts.*

Introduction

Substantial parts of China have been classified as 'ecologically vulnerable zones' (EVZs) (MEP 2008; Ouyang *et al*. 2008). Climatic, biophysical, geological, and socio-economic factors determine the extent to which a region might be classified as vulnerable. Climatic factors, particularly the level of precipitation and its reliability, and temperature and its variability, are fundamental. The environments in these zones have little resistance to external disturbance such as climate change, are unstable and sensitive to population pressure and have an intrinsically low capacity to support human settlement (Zhu 1993; Xu *et al*. 2006; Meng *et al*. 2010). Western China particularly has experienced severe environmental degradation associated with climate change, desertification, water shortages, soil erosion, deforestation, over-reclamation, overgrazing and the impact of mining. This has had and will have major implications as the population of this region has increased significantly from 175 million in 1950 to 355 million in 2000 (Yue *et al*. 2003) and by the census of 2010 to 367.3 million. This dramatic population growth has intensified the pressure on freshwater and food supplies and adversely affected biodiversity. One unavoidable result has been increasing poverty for those living in these areas.

Moving people out of vulnerable environments is perceived by the Chinese central government as fundamental to relieving pressure on the environment, rehabilitating ecosystems and eradicating poverty (State Council of China 2006). Environment-related displacement and resettlement became official policy of the Chinese government in 2002 with a plan to resettle 1.5 million people by 2010 (NDRC 2007a). By 2050 it is projected around 10 million people, mostly in western China, will require resettlement (Shi *et al*. 2007). From 1983 to 2005, there were approximately 2.6 million environmentally displaced persons in China as a whole, with some 1.95 million poor people in western China moved away from their original homes (WCDLO 2005).

Managing Environmentally-Driven Resettlement

Stages of environment-related migration

Stage I (1983-1993): In 1983, the Chinese central government initiated a policy to facilitate environmental displacement, to reduce poverty in some of the least viable and poorest mountainous areas of western China including the Dingxi prefecture of Gansu province and the Xi-Hai-Gu district of Ningxia *Hui* Autonomous Region. These areas were characterized by high agricultural drought vulnerability (Wu *et al*. 2010), lack of irrigation due to water scarcity, high elevation with frigid temperatures and 70% of the rural people lived in poverty.

Stage II (1994-2000): The central government's development-oriented '*Aid the Poor*' programs (started in 1986), together with a strategy of 'regional targeting' (i.e., alleviating poverty by developing regional or local economies) and the trialing of 'environmental resettlement', helped to dramatically reduce large-scale

poverty in poor areas of the country, thereby reducing China's rural poor from 250 million in 1978 to 80 million by 1993 (SCLGOPAD 2006). Those living under the national absolute poverty line after the programs of 1983-1993 were mainly concentrated in remote locales of the EVZs with harsh physical environments such as high mountains, karst highlands, desertified regions with no, or limited, access to basic infrastructure and basic social services. It appeared impossible to lift these particular groups out of poverty using *in situ* development programs. To cope with remote rural poverty, in March 1994, the central government started implementing the '*80/7 Plan to Combat Poverty (1994–2000)*' or 'eighty million in seven years policy' (i.e., lift the 80 million rural people living under the national poverty line above that line by 2000). This was the first ever Chinese program for development-oriented poverty reduction to have clear and definite objectives, targets, measures and a time limit. The program also recognized some rural families in very harsh environments would require displacement and resettlement. Subsequently in addition to Ningxia and Gansu, all ten provinces in western China and a few provinces in central and eastern China (Guangdong, Fujian, Hebei, Shanxi, Hubei, Liaoning, Jiangxi, Anhui) have also initiated environmental resettlement schemes, which directly target extremely poor households, and the poorest villages.

Since 1994 the '*Aid the Poor*' program has focused on 592 poor counties as determined by the State Council, based on the absolute poverty line of 400 yuan set in 1992. The population living in poverty in these counties was 58.6 million in 1994, accounting for 72% of the total in rural China. Of these counties, 375 are in western China and all are located within the EVZs and include populations of many ethnic minorities. Poverty in the EVZs is very high. A 2008 study by Zhou *et al*. noted that: (i) 92% of the counties situated in the typical EVZs, such as the Loess plateau, karst regions centered around Yunnan-Guizhou plateau, and Qinghai-Tibet plateau, are impoverished; and (ii) 83% of residents living in the EVZs are poverty-stricken. More than three quarters (76%) of the counties in western China are poor, and most of them are situated in areas where ethnic minority groups are concentrated (210 counties). Fifty of China's fifty-five official ethnic minority groups live in the western regions, accounting for 47.4% of the total local population or 75% of the total minority population in China. Clearly, the vulnerable environment is the most important determinant of poverty in the EVZs. Noticeably, the proportion of poor people whose basic subsistence problems had not been resolved relative to the total rural population in the ethnic regions has remained twelve percentage points greater than the national average in recent years. Poverty reduction in the ethnic areas has been extremely challenging in China's persistent endeavors to eliminate poverty. This adds an extra dimension to the challenge of resettlement.

Stage III (since 2000): Today, environmental resettlement programs are being conducted in three situations: (1) where people are attempting to live in an environment where conditions are normally not conducive to human habitation or sustainable livelihoods (e.g., mountainous areas and severely arid areas); (2) in pastoral areas that have suffered serious desertification, areas vulnerable to geological or mountain hazards (e.g., earthquake, landslide and mud-stone flow from flooding), and areas that suffer from severe soil erosion; and (3) protected areas (e.g., source regions exposed to climate change of major rivers, nature reserves) where the biodiversity and landscape need to be better conserved, or naturally regenerated to adapt to climate change.

Planning and organizing environmental resettlement

Environmental resettlement in China is essentially the purposeful, planned, organized, permanent, and sometimes involuntary displacement and resettlement of poor rural people. Government, at all levels (central, provincial and local), has played a key role in the planning, organization and financial stimulation of this process. The role of the central government includes devising resettlement policy and plans, providing funding, and overseeing the resettlement process. Provincial governments design specific policies or guiding principles related to: the selection of households to be displaced, and the selection of sending and receiving communities; the levels of subsidies that the displaced receive; land allocation and the transfer of household registration (*hukou*) from origin to host community. The primary roles of local governments at county and township level include: determining which villages and which households need to be relocated; providing incentives; organizing physical removal; and assisting the displaced to become involved in host communities.

Providing financial assistance

Financial stimulus from the central government (53.9% of the actual total funding on average, 5,191 yuan per head) and local government (24.8%) is important in enabling environmental resettlement (Li *et al*. 2005).

Governmental funding is invested mainly in the resettlement communities for infrastructure and social services. Financial support from government sources, however, has not been enough for the displaced to rebuild their livelihoods post-displacement (Jiang *et al*. 2006). On average approximately 20% of the total cost is borne by people displaced. The cost is even greater when it comes to resettling people into communities located well beyond their origin county (Zeng & Zhu 2006). Displacement can also involve hardships beyond the financial costs. Some displaced people have experienced difficulties in reconstructing their livelihoods, causing instability within the communities in the resettlement areas (Wang & Wang 2010; Zhou *et al*. 2010). This is especially the case for the displaced minority groups of people who often face tremendous changes in production activities, culture, language, lifestyle and customs (Liu 2002; Bao & Meng 2005; Abliz & Gulisumu 2006; Wuli 2006; Jiao *et al*. 2008; Feng & Chen 2009). Social, cultural and psychological costs are also very important but cannot be quantified using available quantitative analytical tools. One consequence is an increased likelihood of social disarticulation and other associated social risks of displacement (Cernea 2000). Of particular significance is people's sense of identity, which might be lost, in part, through the resettlement process (Gruschke 2008). Cultural continuity, including culturally-based feelings and perceptions, is a critical issue in resettlement as this has significant effects on local people's sense of wellbeing and health (Chandler & Lalonde 1998).

The groups most likely to be displaced

A strong finding of the general migration literature is that it is not the poorest of the poor who can move (Amin 1974; Skeldon 1997). The process of environmental resettlement in China further demonstrates that it is not always the poorest populations which benefit from the environmental resettlement policies. In some communities it is the relatively wealthy villagers that have been relocated, leaving the really poor and their families behind (Li *et al*. 2005). Clearly there is an apparent contradiction between ends and means. In each province's detailed environmental migration plans, there are strict criteria for selecting suitable families to be displaced. The level of educational attainment and age are important selection criteria for farmers or herdsmen (and thus their families). The most likely to be selected are the primary laborers of the family with 6-9 years of schooling, aged 45 years or younger (Li *et al*. 2005). Many of these laborers have already had experience in seeking off-farm employment and in earning income in urban areas. Moreover, the number of people to be displaced is determined by the size of the budget. As the poorest families do not have sufficient money to supplement costs on removal, they are often excluded from the selection process.

Resettlement principles and approaches

Environmental migration in China is supposed to be carried out in light of the following *four principles*: respect for the voluntary nature of relocation; utilizing suitable resettlement approaches; acting only within the capability of the people or of the community; and subsidizing those to be displaced. The destination of the displaced depends on the carrying capacity (especially land provision) of a community, the severity of environmental vulnerability in the receiving locality, and the numbers of people to be displaced. Most displacement and resettlement so far has been in western China and through near resettlement schemes (Li *et al*. 2005). Although studies indicated that the eastern and coastal provinces are suitable destinations with greater capacity of accommodating environmentally displaced people, as yet only limited environment related resettlement has occurred in these provinces (Wuli 2007).

Agriculture-based resettlement is the dominant approach to settling displaced persons. However, after two decades of environmental resettlement practice it is now very difficult to secure arable or pastoral land. In a few provinces (e.g., Chongqing, Gansu, Jiangxi), local governments are endeavoring to settle some displaced people in the non-agricultural sector. For such recipients the government provides, for free or at a low cost, the displaced with residential land in urban or peri-urban areas of county-level cities, or rural townships, on which they can build homes. These displaced earn their living by either setting up their own business or working as migrant labor. Coupled with the sustained progress of industrialization and urbanization in China, it is likely more environmentally displaced people will resettle in urban areas or major rural township centers. Social inequality between migrants and local urban citizens has been a key issue in the urban areas (Zhao & Howden-Chapman 2010). Despite significant reforms of the *hukou* system (established in the late 1950s) since the mid 1980s, this system still functions as one of the key institutional barriers in restricting migrant mobility and in reducing social inequalities (Ito 2008). An overarching policy reform to improve the transferability of status from agricultural to non-agricultural for people displaced, voluntarily or otherwise, is crucial to its success (Chan 2010).

Discussion

Displacement and resettlement has already been used as an adaptation strategy to climate change in China (Roger & Wang 2006; Pan *et al*. 2011) as well as in other parts of the world (Bronen 2008; Don 2009; Stal 2009). Moreover, hydro projects in China have gained and continue to gain considerable political and institutional support. The central government states that to 'actively develop' hydropower and other forms of new energy is a crucial strategy for adapting to climate change, through the reduction of greenhouse gas emissions (NDRC 2007a, 2007b). China aims to improve the percentage of hydroelectricity and other renewable energy in the total energy consumption from 10% in 2010 to 15% by 2020. Sixty percent of renewable energy will come from hydropower. Future development of hydroelectricity will be focusing on the rivers of Jinsha, Yalong, Dadu, Lancang, Nu, and the upper reaches of the Yellow River. In the processes of ongoing and approved large hydropower projects (e.g., Xiangjiaba, Xiluodu, Baihetan projects on the Jinsha River, which is the upper section of the Yangtze), a massive number of people will be unavoidably displaced in coming decades.

In order to manage population mobility associated with climate change and/or large-scale mitigation and adaptation (M&A) projects policy makers need to consider the full spectrum of responses at various stages of movement from prevention, mitigation and adaptation to migration (voluntary and forced) to return or resettlement and finally integration in the last destination area. Institutions are central to responding to new challenges such as adaptation to climate change (Adger *et al*. 2007). A critical challenge for policy-oriented research on adaption is to understand the ways in which institutions enable or constrain adaptation to climate change (Barnett & O'Neill 2010). Yet what institutions are important, how these may limit or enable adaptation, and what specific institutions, governance and policy process reforms might be needed, are still understudied. Future study is needed to push towards greater specificity in understanding national policy, institutional, legal and governance frameworks for adapting to climate change in general, in China, and climate-induced and/or large-scale M&A projects related to resettlement in particular.

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