

# "Ecological Migration" -- A Different Version of "Climate Migration" in China?

(Translated from Chinese)

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Since the 1980s, the nexus of human migration and climate change has increasingly become a focus of scholarly attention. As early as 1990, the First Assessment Report (FAR) of the Intergovernmental Panel on Climate Change (IPCC) noted that "the greatest single impact of climate change might be on human migration." As these early projections proved more and more accurate, the concept of "climate migration" became popularized and received worldwide attention. However, compared to their international counterparts, Chinese academic databases show relatively little engagement with this particular concept. Instead, Chinese researchers focus on "ecological migration", which has some overlap but also some conceptual differences with the notion of climate migration. Based on these studies, this paper attempts to review the differentiations made by Chinese scholars between climate migration, ecological migration, and environmental migration. After introducing different types of studies on ecological migration the paper will suggest preliminary reasons why Chinese studies on ecological migration far outnumber those on climate migration.

## **I. Differentiation between related concepts of climate migration**

While scientific concepts are always contested, Chinese researchers often employ terms like "climate migration" and related concepts such as "environmental migration" and "ecological migration" quite differently than their international counterparts.

### **1. Climate migration and environmental migration**

"Climate migration" and "environmental migration" have closely related origins and connotations. According to international common definitions, environmental migrants are persons or groups of persons who, predominantly for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad. The term "climate migrants" refers specifically to those who migrate for reason of

climate change.<sup>1</sup>

**Pan Jiahua (2014)**, Research Fellow and Director of the Research Center for Sustainable Development at the Chinese Academy of Social Sciences (CASS), summarizes three different strategies of people who are facing environmental and climate change. Some people may passively accept unfavorable situations; others take initiatives to reduce the impact; or leave the affected areas. According to his analysis, migration is people's last resort.

However, areas of additional in-migration may also see increased environmental degradation, resource pressures, or conflicts, which has led to diverging assessments among the international academic community: in some cases, migration is depicted as a failure of adaptation to climate change, and in other cases it is considered as an effective strategy. In the paper "Migration and Adaptation to Climate Change: Western Debates and Chinese Practice", **Yan Dengcai (2017)** Postdoctoral Researcher of the National Research Center for Resettlement (NRCR) of Hohai University, provides an overview of positive and negative assessments of Western scholars on migration effects and argues that migration is a result as well as an action of climate change adaptation. Yan points out that China should change the notion of "engineering projects value more than migrants" of the past years and adhere to a new development strategy of "putting migrants first".

In the above-mentioned article, **Pan Jianhua (2014)** points out that climate migration is a type of human migration induced by climate change and climate policy. It thereby includes the planned resettlement and migration of local residents for the implementation of engineering measures to cope with climate change – which, in Chinese, is often referred to as "engineering-project migration" (工程移民). Such resettlement measures are thus argued to be included within the conceptual scope of climate migration because the purpose of such engineering measures is to defend against climate problems or mitigate negative climate effects.

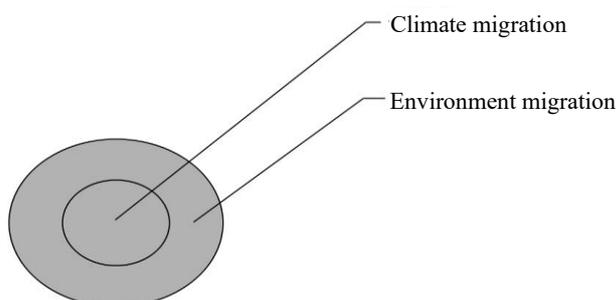
**Chen Shaojun (2012)**, Professor of NRCR, states a similar view in the paper "The Concept and Types of Climate Migration Analysis". She points out that the essence of climate migration is to avoid direct or potential climate disasters (caused by various climate risks) by transferring people and socio-economic activities to other locations. Therefore, all migration-related activities that mitigate the impact of such disasters should be classified as climate migration. These activities include involuntary human migration such as planned resettlements arising from climate projects (e.g. irrigation projects in arid areas and dam construction projects in low-lying coastal areas) implemented to alleviate the adverse (coercive and destructive) effects of climate

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<sup>1</sup> E.g. "Climate Migration: the movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border." *Glossary on Migration. IOM (2019)*, pp 31.

change on human survival and life, as well as human migration and socio-economic system reconstruction activities associated with other risks (geological disasters caused by meteorological disasters such as debris flows and landslides) caused directly and indirectly by climate change. As shown in Figure 1, Chen explicitly identifies climate migration as a part of an overarching category of "environment migration", which includes migration in response to other factors, such as environmental pollution or ecological damage.

Figure 1. Relationship between environment migration and climate migration (Chen Shaojun, Cao Zhijie, 2012)



## 2. Climate migration, ecological migration, and environmental migration

The term "ecological migration" is more common in the research of Chinese scholars. The term stands in a complex conceptual relationship with related notions such as "climate migration" and "environmental migration."

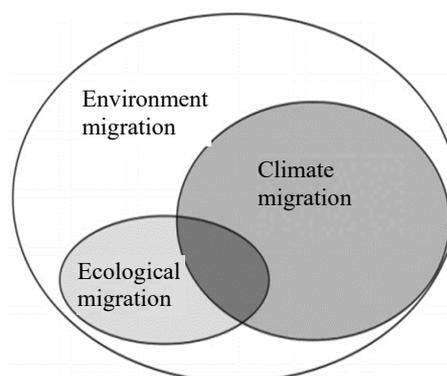
The concept of "ecological migration" was first proposed by American botanist Henry Chandler Cowles. In Chinese practice, ecological migration is seen as a type of migration that follows multiple objectives. In an article titled "Review of the Research Progress in Climate Migration", **Prof. Wu Xianhua, et al (2018)** of Shanghai Maritime University summarize China's policy objectives with regard to "ecological migration" as ranging from environmental protection of ecologically fragile areas to the long-term development and prosperity of migrants. Along these lines, ecological migration should neither destroy the ecological environment of in-migration areas, nor compromise the quality of life, public resources, and other interests of local residents, which is very distinct from "migration to survive" (生存性移民). It is argued that "ecological migration" is a product of the practice and further development of the notion of "environmental migration" in China. China's planned ecological migration projects have followed multiple objectives such as ecological restoration, poverty alleviation, and economic development which complicates and enriches the concept and content of ecological migration. Nevertheless, ecological migration, as essentially environmentally induced migration, overlaps with climate migration to some extent.

In her above-mentioned article, **Chen Shaojun (2012)** also analyzes the relationship between ecological migration and environmental migration: to her mind, environmental migration encompasses environmental migration for the purpose of environmental protection and pollution control in the narrow sense and ecological migration for the purpose of protecting and restoring regional ecosystems of particular value.

**Dr. Zheng Yan (2013)** from the Institute for Urban and Environmental Studies (IUES)/ Research Center for Sustainable Development (RCSD) at CASS, made it clear in the paper "Environmental Migration: Concepts, Theories and Policy Implications" that like climate migration, the migration out of poor areas of western China, often referred to as ecological migration, is a subset of environmental migration. Climate migrants are grouped into four distinct categories: (1) Climate-protection migration (气候防护型移民): People who are permanently moved to new livable areas due to long-term planning measures regarding densely populated low-lying coastal residential areas that could be flooded or eroded as a result of sea-level rise; (2) Climate disaster migration (气候灾害型移民): People who are forced to flee and take refuge due to short-term emergencies, including extreme climate disasters such as typhoons, rainstorms, floods and mudslides; and sudden epidemics; (3) Climate engineering migration (气候工程性移民): People who relocate, mostly permanently, due to climate change mitigation or adaptation policies, such as hydropower stations, wind power plants, reservoirs, dikes, windbreak-afforestation, and energy (wood production) afforestation, closing hills for reforestation, and conversion of farmland to forests; and (4) Climate-impoverishment migration (气候贫困型移民): Relocation due to population growth, overexploitation of land and water resource and long-term persistent droughts. In view of the multiple objectives that underpin ecological migration, categories (1), (3) and (4) constitute the main content of ecological migration as implemented by China.

The view is expressed in a more vivid way through the diagram (Figure 2) drawn by **Zheng Yan (2013)**.

Figure 2. Relationship between environmental migration, ecological migration, and climate migration (Zheng Yan, 2013)



In this interpretation, environmental migration has the widest extension, and ecological migration and climate migration are subsets of environmental migration that are not mutually exclusive, but partially overlap.

## II. Status of Chinese research on climate migration

High-disaster-risk areas and ecologically sensitive areas are most vulnerable to climate change and thus spaces from which climate migration can be expected to originate. Due to frequent climate disasters, climate change has become an important cause of poverty and even for falling back into poverty in China's poor regions. 95% of those living in absolute poverty in China live in ecologically-fragile zones and are already the worst affected victims of climate change, according to the report "Climate Change and Poverty" published by Greenpeace and Oxfam in 2009. At present, Chinese scholars mainly focus on the driving forces, types, and resettlement effects of climate migration, of which many probe into the essence of ecological migration.

"Ecological migration" projects in Western China aim to lift rural people out of poverty while reducing the environmental pressure of human activities brought on important ecological functional areas. **Dr. Zheng Yan (2016)** concluded in the above-mentioned case study from Ningxia that, on the surface, ecological migration is caused by environmental degradation and poverty, but climate change is the driving force behind the vicious cycle of population pressure, ecological degradation and poverty.

**Dr. Yu Qingnian, et al (2011)** from NRCR / Research Institute of Land Resources Management at College of Public Administration, Hohai University, found no large-scale individual migration caused by extreme weather events in surveyed villages, as indicated in "Climate Change Migration: Extreme Weather Events and Adaptation Survey on Rural Migration in Southwest China in the 2010 Severe Drought". Adaptive behaviors at both public and private levels jointly alleviate the pressure on farmers' livelihoods brought by extreme droughts, making the migration of family members unnecessary. Unlike the description of inadequate climate capacity caused by long-term climate change noted by Zheng Yan, migration is not likely when short-term difficulties can be alleviated by other measures. Along similar lines, the aforementioned **Prof. Chen Shaojun (2013)** conducted empirical research on the correlation between climate change and population migration in the central arid region of Ningxia. Inquiring about the drivers of different types of migrants in Ningxia, the study indicated that spontaneous migration<sup>2</sup> has the strongest correlation with climate change, followed by government-led ecological migration and involuntary migration.

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<sup>2</sup> "Spontaneous migration: the movement of a person or a group of persons who initiate and proceed with their migration plans without any outside assistance." *Glossary on Migration. IOM (2011)*, pp 63

**Sun Ziwei (2012)** from East China Normal University (ECNU) describes the climate issues China currently faces and the resulting migration pressures in the Master's thesis "An Analysis of International Climate Migration - - An Example from East Asia". Unpredictable precipitation patterns and frequent severe droughts adversely affect crop growth, and the consequent decline in agricultural yields will have a negative impact on food security, on economic development and social stability. He outlines predictions showing significant climate migration that will take place in the upper reaches of the Yangtze River and the Yellow River, the northwest region, and the southeast coast in China. Though entitled "climate migration", this paper outlines how, in China, these challenges are usually addressed by way of resettling local people under the "ecological migration" framework. This approach is expected to increase the income of farmers and herdsmen by other means, and meanwhile, to protect the local fragile environment and reduce the adverse impact of climate change. Overall, in China, such kind of climate-related migration activities that involve population relocation is generally called "ecological migration." **Xun Lili and Bao Zhiming (2007)** emphasize in their paper "Environmental Policies Based on Government Mobilization and Their Local Implementation: A Sociological Analysis of Ecological Migration at County S of Inner Mongolia" that the practice of ecological migration which aims to solve environmental and poverty problems is a top-down, crisis-response and environmental policy based on government mobilization.

The above-mentioned **Dr. Yan Dengcai (2017)** divides climate migration into slow climate change migration, extreme weather events migration, and climate engineering migration, and evaluated the advantages and disadvantages of migration in three aspects: willingness to migrate, substitutability of engineering measures, and effects of migration. His article comes to the following conclusions: (1) Climate change affects migration in various ways, including individuals, families, governmental intervention, and external environmental factors; (2) There are a variety of forms of migration, including spontaneous, encouraged, and mandatory migration; (3) For the context of climate change adaptation, migration is as important as engineering and technical measures; and (4) The effects of migration are non-linear, depending on migration policies and plans, resource integration and mutual aid, and project implementation and management, and the government's migration philosophy. Similar to other Chinese scholars, Dr. Yan uses the terms "population relocation", "climate migration" and "ecological migration" almost interchangeably.

**Chen Xingtao (2018)** from Golog Survey Team of the National Bureau of Statistics (NBS) uses a methodology called analytic hierarchy process (AHP) to investigate the sustainable development of ecological migration in Golog. The main indicators include the per capita disposable income of migrants, per capita productive income of migrants, employment rate of migrants, enrollment rate of school-age children of migrants, production skills training of migrating labor force, social security participation rate of migrants, per capita regional gross domestic product (GDP), and per capita added value of agricultural and animal husbandry. The study revealed that although the economic situation is improving, the return of pasture to grasslands and the accompanying ecological migration are still at an unsustainable level in Golog Prefecture. **Dr. He Zhiyang**

(2014), Lecturer at the College of Public Administration of Hohai University, examines the impact mechanism of climate change on human capital of migrants and the livelihood loss brought about by climate change, in an article titled "Human Capital Loss and Reconstruction of Climate Migrants Under the Impact of Climate Change – – A Case from the Arid Areas of Central and Southern Ningxia". It is found that (after having been resettled) the already weak human capital of climate migrants rapidly depreciates under the influence of continuous droughts, and the livelihood restoration and sustainable development of climate migrants is hindered by factors such as the incompatible agricultural production experiences from previous practices, the shortage of labor skills, malnutrition, and infectious diseases.

## Conclusions

Owing to the global nature of climate issues, climate migration has received worldwide attention. After parsing the Chinese academic discourse, it is not difficult to see that climate migration is understood as a subset of environmental migration. Significantly, Chinese scholars have extended the concept of "climate migration" to include migration and resettlement activities that follow from large-scale engineering measures taken to address the negative effects of climate problems. The latter type is also more customarily referred to as "ecological migration in China". In terms of its connotation, ecological migration often overlaps with climate migration. Driven by the way Chinese policies and practices are generally framed, Chinese scholars also focus on ecological migration and largely focus on migration related to restoration of fragile ecological environment. There are relatively few studies on migration related to changes in living conditions arising from climate change, such as disappearance of habitable areas.

In China, "climate migration" has undergone some shifts in meaning. The notion has been changed to fit local conditions, but these shifts also explains the disconnect and unfamiliarity of some Chinese researchers with the international discourse on "climate migration" and the lack of debate regarding climate change as one of the fundamental reasons for accelerating environmental deterioration. On the other hand, it is worth pointing out that Chinese scholars usually do not use the term "ecological migration" in studies on international issues related to climate migration, such as source countries, neighboring countries, major responsible countries, and differentiated response strategies of other countries and regions. Chinese scholars are more inclined to differentiate between "ecological migration" and "climate migration" depending on whether their context of analysis is primarily domestic or international.

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