Lack of Migrant Involvement in Environmental Migration Projects in Western China

Haijuan YANG*, François DUBÉ**, and Lijun HUANG***

Abstract

Policies of forced migration due to environmental degradation expose migrants to a number of potential risks, particularly in developing and newly industrialized countries such as China. This article aims to explore the contribution of institutional governance and migrant participation to the mitigation of these risks. Based on an empirical survey conducted in two villages in China's Ningxia province, we consider the interactive relations between migrants and local government, and find that the participatory nature of local institutions (or lack thereof) plays a fundamental role in determining the success of migration policies. Thus, the risks of social dislocation are not inevitable consequences imposed on migrants: When given the opportunity, they can adapt, influence, and improve resettlement projects in order to mitigate the risks to which they are exposed.

Keywords: 1. environmental migration, 2. forced migration, 3. governance, 4. Ningxia, 5. China.

La falta de involucramiento de los migrantes en proyectos de migración ambiental en China Occidental

Resumen

Las políticas de migración forzada debida a la degradación ambiental exponen a los emigrantes a un número de riesgos potenciales. Este artículo apunta a explorar la contribución de la gobernanza institucional y la participación de emigrantes para la mitigación de estos riesgos. Con base en una encuesta empírica llevada a cabo en dos pueblos en la provincia de Ningxia de China, consideramos las relaciones interactivas de los emigrantes y el gobierno local, y hallamos que la naturaleza participativa de las instituciones locales juega un rol fundamental en determinar el éxito de las políticas de migración. Por ende, los riesgos de desubicación social no son consecuencias inevitables impuestas sobre los emigrantes: cuando se les da la oportunidad, ellos se pueden adaptar e influenciar los proyectos con el fin de mitigar los riesgos a los que son expuestos.

Palabras clave: 1. migración ambiental, 2. migración forzada, 3. gobernanza, 4. Ningxia, 5. China.

* Ningxia University, China. Email: 364664141@qq.com.
** Ningxia University, China. Email: francois.dube.3@ulaval.ca.
*** Ningxia University, China. Email: hlj1963@163.com.

Introduction

The relationship between environmental changes and migration has generated considerable discussion for 20 years, both in policy-making circles and in the academic community. Part of the discussion has focused on projects of "environmental migration" as an official public policy, initiated and implemented by the states. Such projects were adopted as a solution to environmental degradation in many regions and countries (Gemenne, Brücker and Ionesco, 2012), including China. Projects of forced resettlement represent a real challenge for public institutions in developing and newly industrialized countries, which often have to produce large-scale resettlement policies of great complexity with limited resources and experience. Following best practices in this area, policy makers are supposed to take into account the full range of factors that can influence the adaptation of migrant communities in their area of destination, at the risk of seeing them return to their place of origin. Indeed, any forced migration project exposes the most vulnerable migrants to various risks, including social and economic exclusion, material impoverishment, and the disruption of their community. Thus, a major challenge for research is to understand how institutions can promote/hinder this adaptation and mitigate/aggravate risks faced by migrants (Barnett and O'Neill, 2010).

In China, internal migration from provinces and rural areas to large urban centers has largely monopolized the attention of researchers. Yet, one may argue that environmental degradation-induced migration poses equally important problems, at least in western China, where serious problems of soil erosion and desertification can be observed. Located at the very heart of this region, in the particularly arid area of the Loess Plateau, the Ningxia Hui Autonomous Region constitutes our field of investigation, and was one of the first provinces in China to have implemented—by 1982—an official and coordinated policy of environmental migration.

This article does not seek to assess the success or failure of a particular resettlement project, but rather to identify the main factors that may explain these different outcomes. In order to do this, we will focus on the interactions between migrants and public institutions of a resettlement project, and how these interactions can affect the well-being of migrants during and after the migration. We argue that the governance of institutions and the degree of participation of migrants can play a vital role in mitigating the risks inherent in such projects. This involves considering migrants and authorities in a dynamic and interactive relationship, which might then be used to explain the successes or failures of environmental migration projects. We will see that the risks of impoverishment and exclusion are not inevitable consequences imposed on migrants: When given the opportunity, migrants can respond, adapt, influence, and even improve resettlement projects to promote their interests and mitigate the risks to which they are exposed.

After presenting the contributions of the literature on issues of inclusive governance and the participatory nature of environmental migration projects, we present the results of an empirical survey of two migrant communities in the region of Ningxia: the Heshun and Yuanlong villages. We conclude by examining what these experiences can teach us about the importance of governance and participation for the integration and well-being of environmental migrants, and what lessons can be learned for similar future projects in China and elsewhere.

Environmental Migration, Governance, and Participation

As part of this investigation, we define an environmental migration[1] project as any policy initiated by the central government and implemented by regional or local institutions aimed at mitigating the environmental and social issues related to environmental deg-

[1] The Chinese expression *shengtai yimin* is sometimes translated as "ecological migration" or "ecological resettlement." In this article we use the term "environmental migration."

radation by relocating some or all members of a vulnerable community to an area capable of supporting sustainable livelihoods. Public authorities have the power to slow down, accelerate, or force the displacement and thus shape the strategies of individuals and communities struggling with a degradation of their environment. In China, these policies seek to kill two birds with one stone, namely to rehabilitate degraded ecosystems by reducing population pressure and land use, and to fight poverty by promoting economic development through the creation of new living environments for migrants on the basis of market-based livelihoods (West, 2009; Dickinson and Webber, 2007).

These projects can be centralized (when authorities are playing an active role in the selection of destination, site construction and development, land distribution, etc.), or dispersed, when migrants are free to relocate to different places. Migration can also be voluntary or forced. However, as pointed out by Rogers and Wang (2006), in a Chinese context, these distinctions are not obvious or perhaps even relevant. Migrants who could be considered in theory or on paper as volunteers are often subject to various pressures from the local authorities, in fact making life impossible or impractical in the originating location (Rogers and Wang, 2006). Therefore, a review of migration projects in China should strive to go beyond a review of formal policies and focus on the actual experience of migrant communities.

Too often, these population-displacement projects result in a lose-lose scenario: Migrants are often just as, if not more, vulnerable at their final destination, and the environmental problems at the root of the environmental migration project are often not entirely solved by their resettlement (Tan and Wang, 2004). Several authors say that the anticipated positive results of migration projects are simply not seen, noting that the logic that underlies the projects is often linked to short-term development objectives more than to a true increase in the quality of life for migrants (McDonald, Webber, and Duan, 2004; Mol, 2006) and that the authorities are generally very reluctant to integrate local commu-

nities in the process (Nasritdinov *et al.*, 2010). This seems particularly true in China, where the failure rate of these projects is extremely high and where these resettlements sometimes put the migrants in a situation of chronic impoverishment and high vulnerability (Liao *et al.*, 2014).

In the context of environmental migration, the concept of vulnerability is defined as "the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes" (Intergovernmental Panel on Climate Change, 2007:883). Vulnerability also refers to communities and households within these environmental systems. The degree of vulnerability is in turn determined by a variety of factors, such as the nature of climate impacts, the degree of exposure to climate impacts, the sensitivity of communities to such changes, and the capacity of the exposed population and its socioeconomic systems to adapt (McLeman and Hunter, 2010). In this context, "migration is but one possible form of adaptation within a broader set of potential adaptive responses that individuals and households make when sensitive systems are exposed to stressed or changing environmental conditions" (McLeman and Hunter, 2010). Indeed, in some cases, certain communities might be inherently more exposed and vulnerable to climate-related environmental impacts.

However, we argue in this paper that in many other cases, these failures are not external (e.g., severity of environmental degradation) or internal to the community (the level of pre-migration poverty), but originate from the poor governance of the authorities responsible for the administration and implementation of migration projects. These governance problems increase the vulnerability of the migrant community and ipso facto expose it to numerous risks, already identified by Cernea's model (1997). According to his model, the main risks for migrants during such resettlements are as much social as economic, and include, among others, the loss of access to natural resources (land, water), losses in terms of revenues and residential space, social marginalization, and disarticulation of the community, etc.

But it would be wrong to consider the migrant community as passive in the face of these risks of exclusion and impoverishment. Some research tends to show that the participation of migrants in resettlement projects may, to some extent, mitigate these risks, and this level of participation is largely dependent on their degree of involvement in the design and governance of migration plans. The failure of several resettlement projects and the violence that sometimes results from these failures have prompted a growing number of policy makers and institutions to pay more attention to the participation aspect of these projects, and to recommend a greater involvement of the target communities (International Organization for Migration, 2012).

According to the European Commission and the Organisation for Economic Co-operation and Development (OECD) (2003), the concept of participation is closely related to the inclusion *a priori* of the target populations in the development of public policy, or at least taking into account their feedback *a posteriori*. For migration projects, this implies substantial and meaningful exchanges before, during, and after the resettlement between institutions and the community to be moved. We can therefore judge the participatory nature of a resettlement project based on the interactions between the various stakeholders of a project, through which institutions seek to model the responses of migrants, while migrants seek to influence institutions to maximize their gains, minimize their losses, and ensure a successful transition to their destination site.

According to our approach, the risks to which the migrants are subjected are a product of a complex interaction between *1)* the structure, including the policies and institutions that constrain or create opportunities; *2)* the capital resources that migrants can mobilize to protect and restore their livelihoods; and *3)* the vulnerability context. This article therefore focuses on the interaction between these three factors, namely how the participation of migrant communities influences (or does not influence) the structure of the migration project and improves (or does not im-

prove) their conditions of vulnerability. We assume that in any process of environmental migration, full and meaningful participation of migrants at all stages of the migration process can play an essential role in reducing the risks faced by migrants. Inversely, the more strict and exlusive the attitude of government agencies in regard to the demands and expectations of migrants, the more likely migrants will suffer from the vulnerabilities identified by the Cernea model.

The Chinese Experience in Environmental Migration

Most of the Chinese government's efforts in terms of environmental migration projects are concentrated in the west of the country, particularly in the provinces of Ningxia, Xinjiang, Qinghai, Gansu, and Inner Mongolia. In most cases, these projects have a dual purpose (with varying degrees of success, depending on the case): to stop or slow down the environmental degradation of vulnerable areas and help local people to break away from the cycle of rural poverty (Information Office of the State Council of China, 2001). Specifically, the projects aim to raise migrants' quality of life above that of their original habitat, enabling them to engage in market-based livelihoods, usually on the periphery of an urban center (Bartolome *et al.*, 2000). This link between displacement and development is at the heart of environmental migration programs in China, particularly due to the influence of institutions such as the World Bank, for which environmental resettlements are opportunities of economic development for areas that host the migrants.

According to the classification adopted by Tan and Liu (2013), arguably two of the most important figures in the field of environmental migration research in China, we can divide Chinese policies in this area into three phases. First, from 1982 to 1993, the central government launched an initial wave of projects aimed at facilitating the resettlement of rural populations in order to reduce poverty in some mountainous areas whose environmental

vulnerability was judged to be high. These early experiences were concentrated in the west of China, especially in Dingxi prefecture of Gansu province and southern Ningxia.

The second phase (1994-2000) sought to expand programs targeting other regions and to enhance the fight against poverty. After a significant increase in the standard of living in China following economic reforms, populations still living below the nation's extreme poverty level were now largely concentrated in the mountainous areas severely affected by the phenomena of drought, desertification, and other environmental degradation. In the cases where central authorities judged it to be impossible to reduce the level of poverty of these populations through programs of *in situ* development, the 80/7 plan was adopted, aimed at getting 80 million peasants out of poverty in seven years (in organizing their resettlement if necessary), targeting 592 counties in 18 provinces in China, including 375 counties in western China (Poverty Alleviation Office, 2012).

In the third phase, starting around 2000 and continuing to date, environmental resettlement projects continued in essentially the same areas deemed "unsuitable for human life" by local village officials (Pingliang Commission for Agricultural Workers, 2014) and prone to desertification, and more recently, in the regions to be declared protected areas and nature reserves, such as the sources of major rivers in Qinghai and areas deemed prone to overgrazing in Inner Mongolia. This period also saw the introduction of the first program of monetary compensation specifically aimed at migrants, whereas previously the funds available generally came from programs to mitigate poverty. Now with its own budget (3 billion to 5 billion yuan annually) (Information Office of the State Council of China, 2001) and explicitly incorporating the objectives of economic development and environmental protection, the scope of the projects tends to spread: Some estimates put the number of people to be displaced (voluntary or forced) after 2007 at about 10 million (Shi Jian and Jing-Yi, 2007; National Development and Reform Commission, 2007).

These large, sometimes controversial projects prompted great interest in the academic literature in China and abroad. In Ningxia specifically, Xue, Liu, and Tian (2011) examined the positive effects of migration on environmental problems, including deforestation, while Bai and Wen (2013) discussed the positive contribution of resettlement plans to reduce the income gap between southern and northern Ningxia. Most of these publications have focused extensively on the economic aspects of migration projects (Bao, 2006; Chen, 2007; Shi, 2008), emphasizing the influence on the material living standards of migrants (Wilmsen, Webber, and Duan, 2011; Tan, Zuo, and Hugo, 2013). In Ningxia, as in other Chinese provinces, such investigations adopt broadly similar methodologies, namely a comparison of pre- and post-migration situations of households and individuals (Tang *et al.*, 2012; McDonald, Webber, and Duan,2004; Dickinson and Webber, 2007).

This insistence on a pre- and post-migration comparison is largely not interested in the processual aspects of migration projects. The interactions between the different actors (mainly local village officials and migrants) during the different phases of migration (pre-migration project design, implementation, and post-migration management) are not included in the conceptual frameworks, nor specifically addressed by empirical investigations. If such approaches are able to assess the vulnerability of migrants, they mostly ignore the reactions of the migrants facing these risks, and specifically how the interrelation between migrants and authorities during the migration process is able to influence this vulnerability. More than a methodological issue, this omission stems from an inherent, though not explicit, assumption of the conceptual frameworks of these studies, according to which migrants are essentially passive actors of these policies (Bartolome *et al.*, 2000; Downing, 1996).

However, more recently, some authors have tried to challenge this assumption. Tan and Liu (2013), using one of the most comprehensive empirical studies in the region of Ningxia, showed

that the way households respond to environmental degradation is a strategic choice largely influenced by their natural, physical, social, and financial resources, as well as the institutional context. Similarly, Gemenne (2009) and West (2009) urge researchers to incorporate the feedback of migrants with respect to their environment and the policies implemented by the authorities.

Other research also indicates that the low level of participation of migrants in migration projects in China is one of the main sources of resettlement failure. In their review of migration policy in Inner Mongolia, Rogers and Wang (2006) note that the migrants were never in direct contact with the agency responsible for the project, which generated several misunderstandings and friction about the compensation and terms of resettlement. Foggin (2008) identifies the same phenomenon in the *Sanjiangyuan* relocation project, as did Banks *et al.* (2003) on the Tibetan plateau. In Ningxia, both Chinese and foreign surveys show that the results of environmental restoration programs would be much more positive if the authorities would allow a more significant involvement and participation of migrants in the design and implementation of the resettlement plans (Démurger and Wan, 2012; Liu *et al.*, 2008).

In this sense, our main premise is that migrants are active participants in the migration process, able to articulate their demands and mobilize their resources (as a rational actor) in order to influence public institutions and maximize their interests. This influence is in turn largely determined by the degree of autonomy of the authorities themselves. In China, although the Chinese central government, in its style of decision-making and policy adoption, is still guided by Marxist-Leninist ideology, spaces of autonomy tend to emerge when it comes to the arrangements for local implementation. Padovani (2004) and Grushke (2012) note that the administrative and policy changes of recent years allowed some degree of decentralization, and thus the methods of implementation of resettlement projects vary widely depending on the expertise, skills, and commitment of village officials. Thus, we

specifically examine the two key factors that form the interaction at the heart of the migration process: the degree of autonomy of public institutions responsible for the design and implementation of the resettlement projects, and the degree of community involvement of the migrants in these projects. This is essential if we are to understand the "inner workings" of environmental migration projects, and not just their outcomes.

The Ningxia Hui Autonomous Region

The Ningxia Hui Autonomous Region is a mountainous province in northwestern China and is one of the smallest provinces in China, both in terms of population (6.25 million) and area (66,000 square kilometers). Ningxia is below the national average in terms of income and life expectancy, and is also one of the least-developed regions of China (Gustafsson, 2012). At the heart of the Loess Plateau (with an average altitude greater than 1,050 meters), the ecology and environmental capacity of the region are among the most vulnerable in China. According to Liu and Wang (2001), the natural endowments of the province would ideally allow a density of 1.79 persons per square kilometer, while the current population density is 89.9 persons per square kilometer.

In order to reduce the population pressure on an already fragile environment, restore the deteriorating ecosystem, and eradicate extreme poverty, the government of Ningxia was one of the first to implement an environmental migration policy in China (Zhan, 2008). This policy specifically targets the extreme south of the region, an area called Xi-Hai-Gu, including seven counties categorized as "poor" by the central government: Xiji, Haiyuan, Guyuan, Pengyang, Jingyuan, Tongxin, and Longde. These counties also have the highest concentration of Hui Muslims in China: Out of a total population of 1.5 million, two-thirds are Hui (Song, 2000; Wu, 2012). Finding themselves unable to irrigate their fields, farmers are heavily dependent on unpredictable

rainfall for their food output (according to local expression 'kaotianchifan,' that is, "depending on the sky to eat").

It is estimated that the Ningxia government resettled over 700,000 farmers over the past 30 years, most from these mountainous counties to the northern counties (Yinchuan, Zhongwei, Wuzhong), where irrigation systems linked to the Yellow River are easily accessible. We selected two communities that were resettled as part of the most recent phase of the environmental migration projects under the Ningxia 12th Five-Year Plan (2011-2015[2]): the village of Heshun, where villagers coming from Pengyang district resettled in October 2011, and the village of Yuanlong, whose inhabitants were resettled from Longde district in May 2012. These two communities were selected because of their similarities, both in terms of their proposed resettlement (in both cases, organized and carried out by the local village government) and of their pre-migration patterns (no significant differences were found in terms of the poverty level, unemployment rate, average years of education, and average income between the two villages). A second reason is that the two villages have had vastly different post-migration results: While Heshun is widely regarded as a positive experience by both village officials and migrants, Yuanlong still faces serious problems.

This article is based on data collected during field research conducted in the winter of 2013, lasting in total four days, using participatory methods in accordance with the methodological suggestions of the IMO (2012). First, during the first field trip, structured questionnaires were distributed in migrant communities, mainly to the head of the family, in order to gather quantitative data on the post- and pre-migration economic and social situation, but especially to assess the participation of migrants, the

[2] The 12th Five-Year Plan of the government of Ningxia will invest 10.58 billion yuan to resettle 78,800 families (346,000 individuals) from the central and southern areas of Ningxia to the northern part of the region, particularly in the suburbs of the regional capital, Yinchuan. The plan covers 1,655 villages in the following districts: Yuanzhou, Xiji Longde Jingyuan, Pengyang, Tongxin, Yanchi, Haiyuan, and Shapotou.

attitude of local institutions and village officials regarding their feedback, and the perceived influence of this participation on their post-migration situation. Respondents were given one week to complete the questionnaires, during which time field researchers contacted respondents to remind them of the deadline. During the subsequent field trips, questionnaires were collected and 13 group discussions were organized (in Chinese), involving several families in the same neighborhood/street, without the presence of local officials. At the same time, six private interviews with village officials were conducted in both communities. This technique ensured a relatively high response rate (more than 80 percent) among migrants. In total, 223 interviews were conducted (N = 223 respondents). Thanks to the support and help of the Research Center for Western Development of Ningxia University, researchers were able to have complete freedom in the choice of meeting sites and respondents, which insured that data collected was not tainted by the favoritism or influence of local government authorities.

Participation in the Pre-Migration Project Design

Our discussions with officials of the two villages show that they had been instructed to provide each household with the details and terms of the environmental migration project prior to the resettlement, and to collect migrants' requests, suggestions, and opinions to this effect. However, our results show that this procedure was largely formal and superficial, and that migrants' requests and suggestions were not considered adequately by either village officials or by the regional body responsible for the migration.

The data collected by questionnaire confirm this. When asked: "Before resettling, did the government collect your suggestions and requests concerning the migration project? If this is the case, were your suggestions and requests addressed by the government?" Only 28.4 percent of migrants in the two selected villages, in equal proportion, answered positively, and among them, only 10.5 percent considered to varying degrees that their suggestions

were adopted and implemented by the authorities during the design of the migration project.

In addition, the work done by officials to inform migrants was far from ideal, as during the field survey, many migrants indicated that they still knew little about the specific details of the migration policy. In the village of Heshun, 50.2 percent of the migrants say they understood "very well" or "well enough" the details of the migration project, while in the village of Yuanlong, the proportion was lower, as only 34.9 percent of the migrants chose one of these two options. Among the concerns voiced before the resettlement were that some migrants had requested to visit the new village in order to assess the conditions. But in both cases studied, the village authorities refused to hold such pre-migration visits.

Participation in the Implementation of the Project

Regarding the implementation phase, our investigation focused primarily on the main aspects influencing the integration of migrants in their new community, namely education and health care services, income, water resources, housing, and government subsidies. Migrants were asked not only about their access to each of the services provided, but also about their participation in the design of such services.

Education and Health Care Services

Overall, after the resettlement, ecological migrants' access to education and medical care significantly improved, compared with their previous location. For the most part, the distances between the migrants' homes and schools, hospitals, and town were greatly reduced, and the quality of education and health care services greatly improved. This is consistent with the goals of the ecological migration policy, according to which the authorities need to provide more comprehensive education, health care, and sanitation services in the resettlement areas in order to ensure that mi-

grants can lead a normal life. Still, our survey results show that in Heshun and Yuanlong villages, although the local village authorities did provide both migrant communities with schools, kindergartens, and community clinics, many problems were apparent in the actual implementation and management of these services.

For example, in Heshun village, the main problems were related to children's education, especially early childhood education. Most migrants consider kindergarten too expensive at about 500 yuan per month, which is consistent with the average local cost of childhood education but is a considerable cost for them. Migrants are particularly sensitive to this issue after resettlement due to the sharp increase in spending in all aspects of life; also, before resettlement, most of the children did not attend kindergarten, being mainly under the care of the household's elderly. During the field research, we found out that this issue was fully aknowledged by village officials, who were actively seeking a solution to decrease the dissatisfaction of households with young children, possibly with the establishment of local subsidies for poorer families.

However, in Yuanlong village, in addition to similar issues related to childhood education, more problems were present in health care services. According to the survey results, about 68.4 percent of migrants think having access to a doctor is difficult, with the main hindering factors being high costs and having to walk a long distance to have access to more specialized or advanced care services. Indeed, although there is a community clinic in the village, it is poorly equipped, and can only provide low levels of medical treatment; community health care services are therefore mostly limited to selling drugs, and cannot ensure treatment in case of emergency. When asked about these problems, village officials in Yuanlong said that as the relevant regional government agencies did not provide funds to support a more comprehensive health care facility, they were unable to improve basic health conditions and medical standards in the community. Yuanlong villagers, for their part, affirmed that they were not part of the planning for the delivery of education and health care services, and that local officials

had not solicited their opinions before the resettlement concerning the best way to ease access to such services.

Housing

In the case of housing, the migration projects of the two communities involved the resettlement of migrant families into standard housing of 54 square meters, the quality of which was substantially higher than the dilapidated housing of their place of origin. However, our discussions with migrants revealed a number of problems. In particular, the allocation of housing was made not based on the number of individuals, but based on the household registration book, which created absurd situations in the two communities. Indeed, a family where parents and children were all registered in one family book was assigned a single house, regardless of the number of family members. For many families, where some children used to live separately from their parents in the village of origin, this can be a serious deterioration of their quality of life. This was the case, for example, with the Wu family in the Yuanlong village, composed of seven members: while they inhabited three houses before migration, they were forced to live together in a single standard home of 54 square meters in their new village. It appears that in both villages, officials did not solicit their views concerning the size of homes, which points to a deep lack of allowing community participation on the part of village authorities.

To solve this problem, some families sought to build, at their own expense, a second house on the land that was allotted to them in their new village, but the local village officials of Yuanlong village categorically refused, threatening to destroy any non-authorized house. Local authorities were reluctant to accept such initiatives by migrants, arguing that the situation would become "unmanageable" and that the space was limited. Moreover, they said that such a situation could create obvious disparities between families of different means, which could lead to social conflict. Our survey shows that even though many fami-

lies were facing this problem, the village officials of Yuanlong were intractable.

In the village of Heshun, on the other hand, while problems were similar, the attitude of village authorities was radically different. Migrants indicated that the village officials were relatively concerned with the problems of such large families. Some families therefore received permission to expand their home, or even, at their own expense, to build a second home on their new land. Moreover, in cases of large families with elderly members, authorities encouraged the families to move the elders into nursing homes located not far from the village, or to neighboring homes where certain rooms were empty, following a formula on sharing living quarters.

Income Sources and Livelihoods

Sources of income and livelihoods are also a key issue affecting the adaptation and integration of migrants in their new environment. In both villages selected, the pre-migratory livelihoods of migrants were mainly based on extensive rainfed agriculture and land area was relatively large. According to the migration policy, a plot of irrigated land has to be allocated to each migrant household. While the average household land area, before resettlement, was about 5 mu (3,330 square meters), comprised mainly of drylands, after resettlement, the average area per family shrank to about 1.68 mu (1,118 square meters), including 1.56 mu (1,038 square meters) of irrigated land. Migrants also received the rights to exploit the land, including the rights of contract management, subcontracting, leasing, exchanging, transferring, and other forms of cooperation. However, our investigation revealed that governance was very much different in the two villages, and had great impact on their livelihoods.

In the village of Heshun, authorities allocated each migrant family a land plot of 2 mu (1,332 square meters), in addition to one agricultural greenhouse. Additionally, training sessions were

held to teach migrants modern agricultural techniques and a variety of skills in this area. During our visit, the majority of respondents were at work in the greenhouses, which were used at full capacity, producing two crops of vegetables a year, mainly tomatoes and tubers. Members of the professional and technical staff not only directed the proper training, but also made regular site visits to inspect and, if necessary, correct malpractices, even months after the end of the initial training. About 80 percent of migrants said they were fully confident about the future of their farming activities.

In the Yuanlong village, authorities allocated each family an irrigated land plot of 1 mu (666.7 square meters), and also including training sessions. However, shortly after resettlement, most migrants decided to rent the exploitation rights of their land to a third-party company for a very small fee (about 200 yuan per year). When asked about the reasons, most migrants said they understood very little about this kind of agriculture, especially the irrigation systems and requirements, and were afraid to make mistakes. Thus, many found themselves without a stable and reliable source of revenue, and as these migrants do not have high technical skills, it is hard to find extra work in the city. In a situation where household expenses have increased relatively compared with their pre-migration situation, the inability of Yuanlong migrants to exploit their own land is a serious obstacle to their integration into their new environment, and a majority said they were pessimistic about the future of their community.

Based on our discussions with migrants, we found that most of them were willing to undergo training in order to learn agricultural skills, and in both cases, governments organized similar training activities. However, the level of participation of migrants differed widely: While migrants in Heshun participated at a rate of 71 percent, the number of migrants in Yuanlong who underwent training was only 26 percent. When asked about the reasons for their refusal to participate, most migrants in Yuanlong said they thought that the training did not meet their needs

(e.g., how to make the shift from rainfed agriculture to irrigation-based agriculture), and did not include a practical component, being limited to theoretical knowledge. When asked, village officials in Yuanlong recognized that most migrants were reluctant to participate in the training, and said they were seeking to increase the participation of migrants by offering small gifts as an incentive. Not surprisingly, such incentives had very little impact, because they did not address the source of the problem: The training obviously did not meet the expectations and needs of the migrants.

Water Supply

Finally, access to water—both for personal and agricultural needs—was a major aspect of the migration project in both communities. Due to the migrants' place of origin being located in an arid mountainous region, where the annual level of precipitation is particularly low, a reliable and easily accessible water supply was considered a fundamental aspect for improving quality of life in their new community. In their home village, water needs for agricultural production depended mainly on rain, while personal needs were met by purchasing drinking water outside the village, which was a major expense for rural households. It is therefore not surprising that the government insisted heavily on the construction of drinking water facilities in the new communities. In both villages, most villagers can now use tap water, and the needs for agricultural production are met mainly by the abundant water resources of the Yellow River. In both villages, more than half of the migrants generally considered that the current situation met their needs.

However, the survey also shows that in the Yuanlong village, although the drinking water system was up and running, interruptions were very common, about three to five times a month, in some cases for several days, and the water filtration equipment was relatively simple and did not meet health standards.

Consequently, many migrants expressed concern about the quality of tap water, but those complaints were mostly ignored by village officials. Moreover, the migrants of Yuanlong said that the authorities had promised to cover the costs of household water use during the first year following their migration in order to facilitate a successful transition, but that this promise was not respected.

Migrants also complained of a serious communication problem, saying local village officials in Yuanlong did not adequately inform households of the costs associated with the use of tap water. As a result, many households used a lot of water for watering their gardens and cleaning their houses, causing a significant increase in spending. The situation was somewhat better in the Heshun village, both in terms of the water quality and the number of interruptions. Moreover, migrants in Heshun said local village officials explained the costs of running water and the ways to avoid overuse. During field research, 17.8 percent of migrants in Yuanlong indicated that "water is scarce and that agricultural production is very difficult," while only 2.5 percent of migrants in Heshun were of the same opinion.

Participation in Post-Migration Project Management

Government Monetary Support for Migrants

Any government-led ecological migration project in China necessarily involves the question of public monetary support for migrants, which directly affects the transition of migrants into their new environment. Indeed, the finances for ecological projects are raised according to three sources of funding: The central government, the regional government, and the migrants themselves all assume part of the funding. In accordance with these national requirements, in addition to government subsidies, migrants of both communities themselves had to contribute 12,800 yuan, which for migrants in a difficult economic condition is not a

small burden. In Heshun village, due to the fact that migrant households can rely on the revenue of their greenhouses, which can bring 20,000 to 30,000 yuan per year, this burden concerns a relatively small number of migrants.

However, in Yuanlong village, because the agricultural training did not correspond to the needs of the migrants, most of them decided to transfer the exploitation of their land to a third party. They therefore do not have a fixed and reliable income, and because most of the households also have no savings, they raised migration funds by borrowing money on the unofficial market, subject to very high interest rates. This put the poorer migrants of Yuanlong village in a particularly vulnerable situation. Local village officials did not consider the migration project in a comprehensive manner, where the repayment of the initial burden of financing the project greatly depends on the post-migration household source of revenue, which is itself related to the efficacy of the training services.

Meanwhile, once migrants have moved to their new place of residence, some households need start-up capital in order to engage in new production activities. However, the current migration policy does not include special funds for the start-up of small businesses or to support the transition to new agricultural activities, so migrants in general face difficult problems in terms of start-up capital. In response to this situation, the autorities of Heshun did relatively well, and after hearing suggestions from the migrants concerning the problems they faced during their transition, established funding support programs. For example, local village officials offered subsidies of 120 yuan per mu in order to buy seeds used for the greenhouses. Emergency funds also were available: Last year, due to heavy rain, some greenhouses were damaged, and authorities were quick to cover the costs of reparation, up to a maximum of 8,000 yuan per household. In Yuanlong, even though our survey showed that migrants were particularly in need of such subsidies—maybe even more than Heshun migrants—lo-

cal village officials did not establish such support programs and had no intention to do so.

Participation in the Management of the New Community

The results of our survey show that, following migration, the degree of involvement of migrants in the management of public affairs increased significantly. Prior to migration, most villagers were rarely involved in the administration of their community, while after resettlement, the degree of participation in both villages increased. However, differences in attitude and effectiveness of local executives of both communities produced widely different results.

In the village of Heshun, following resettlement, about 46.3 percent of migrants said they participated regularly or occasionally in the village assembly, whereas before the migration, the rate was only 23.2 percent. Moreover, migrants said they requested assistance from village officials more often then before when they encountered a difficulty: The proportion of migrants who asked for the help of the village officials made a significant jump, from 4.8 percent to 32.2 percent. In the village of Yuanlong, the improvement in terms of participation was also visible, but much less impressive. Approximately 27.8 percent of migrants said they regularly or occasionally attended the local village assembly, whereas before resettlement, the proportion was 20.6 percent. As for migrants who used the help of village officials, our data showed an increase of only 5.3 percent.

When asked about the reasons why migrants in Yuanlong were relatively less involved in the management of the village, several said they had bad experiences. Most of the time, when migrants go to city hall to report their problems, the attitude of village officials is generally indifferent, and the solutions proposed do not match the gravity of the problems of the migrants. Based on discussions, it seems that in order to solve the slightest concern, migrants had to go through major administrative efforts and repeated visits. In addition, many migrants highlighted the lack of

integrity of the Yuanlong village officials. Some said that even though they were fully eligible to receive government monetary assistance, it was difficult to collect the amounts without using their connections within the local town hall. These problems were similar to other cases that Yuanlong migrants see as abuses of power by the village authorities.

Overall Satisfaction towards Implementation

These differences between the two villages in the post-migration management of public affairs is reflected in the satisfaction of migrants in regard to their overall migration experience. When asked about the overall quality and professionalism of village officials, 89.8 percent of migrants in Heshun were said to be fairly or very satisfied, while in the village of Yuanlong, this proportion was only 52.9 percent. In a similar way, in Heshun, 70.5 percent of migrants said they were satisfied with their post-migration situation, and 13.9 percent were unsatisfied; in Yuanlong, although satisfaction was relatively high (53.6 percent), the higher rate of unsatisfied migrants (35.5 percent) is reflective of the problems described above.

In terms of integration, in the Heshun village, the current overall integration of migrants to their new environment is relatively high: 58.3 percent of respondents indicated they were fully integrated, 33 percent said integration was normal, while only 8.7 percent indicated they were not integrated. In Yuanlong village, the level of integration in general is somewhat less, as only 43.6 percent were said to be fully integrated, and 19.1 percent indicated they were not integrated.

Table 1. Overall satisfaction towards migration policy implementation

	Heshun village %	*Yuanlong village %*
Satisfied	70.5	51.6
Non-satisfied	13.9	35.5

	Heshun village %	*Yuanlong village %*
Neutral	15.6	12.9

Source: Compiled by the author based on field survey data, 2013.

These numbers appear to be largely proportional to the reported degree of participation of migrants and to the attitude of local village officials. Indeed, the high rate of reported participation of migrants in Heshun village is consistent with the higher rate of satisfaction and integration, while the opposite is true in Yuanlong village.

Lack of Participation

Our research shows that in the two villages studied, the policy of environmental migration in Ningxia was mainly designed and planned by the authorities in a unilateral way. Before the migration, the degree of participation of the migrants in the design and planning of the environmental migration project was close to zero. Although in both cases the migration plan on paper included a consultation phase, in order to inform and take into account the demands of the future migrants, the different aspects of the project were largely organized and controlled by village officials without local participation. It is clear that institutions tended to view migrants only as passive recipients of the environmental migration policy, and not as participating actors. In this context, migrants were obliged to accept the policy.

To some extent, this attitude was also present in the phases of implementation and post-migration management, where the low level of participation of migrant village Yuanlong had significant negative effects. The experience of Yuanlong shows that a migration policy that does not involve direct participation of the migrants will lead to absurd situations that are hard to justify. Systematically allocating housing of similar size to families whose numbers range from two to seven is not reasonable, nor is providing agricultural training that is limited to a few academic courses

that do not meet the specific and practical needs of migrants. Interviews with the institutions responsible for the implementation of the project show that this lack of participation is justified "to avoid unnecessary trouble" or in order to "meet the deadlines set by the regional government." But far from achieving the initial objectives of the policy, aimed at improving the living conditions of migrants, the experience of Yuanlong village demonstrates that this unilateral governance tends to have the opposite effect, namely to increase the risks imposed on the migrants.

However, our investigation in Heshun village also reveals that local authorities, specifically the village officials, were able to mitigate these risks by adopting a participatory and inclusive attitude towards migrants. A model of inclusive governance, allowing some flexibility while implementing policies, is able to achieve much more progress in achieving the original objectives of the project. Requests of the migrants in the Heshun village were largely taken into account by institutions, mitigating the risks associated with losses in terms of their housing, livelihoods, and water supply.

Our results largely confirm the conclusions of recent investigations concerning the internal mechanism of implementation of public policies in China, particularly regarding projects of environmental migration. Recently, some authors such as Tang *et al.* (2012), Grushke (2012), Foggin and Torrance-Foggin (2011), among others, have identified the benefits of a true community participation and local ownership of the project. These arrive largely at the conclusion that one of the keys to the success of projects of environmental migration is "to work at the pace of the community, not at the pace of external parties, and what is even more important, to find and to provide opportunities for local voices to be heard as often as possible" (Foggin, 2008). This is also the opinion of a recent report by the International Organization for Migration (2012), which notes that the most successful projects in terms of post-migration results were also those where the process of decision-making was the most participatory.

Thus, it is necessary to go beyond the traditional analysis of environmental migration policies, limited to an evaluation of the policy on the basis of a post-migration inventory of material losses and gains. It is more useful to examine how the vulnerability of migrants depends on how governance influences these post-migration results. From our investigation, a policy approach that does not rely on the participation of individuals and migrant families is unable to achieve the beneficial effects that may result from such interactions. Only an inclusive governance towards migrants can solve this problem. But to do this, they must be involved in the process of decision-making through briefings, meetings, public discussions, etc. This means that local authorities must move away from traditional models of top-down management, learn how to make compromises, and even learn to share power with migrants, which, particularly in China, appears to be relatively difficult.

Conclusion

Based on the present research, it appears more than necessary for future research projects in the field of forced environmental migration to go beyond purely assessment-based approaches in order to fully understand the complexity that characterizes the role of institutions in the process. The results presented in this study, based on a field study of the migration process, and not only the achievements of the project, indicate that the inclusive nature of governance is largely related to a more effective mitigation of risks migrants face. This confirms our assumption that models reducing migrants to a passive role need to be challenged, and are mostly unhelpful in explaining the success or failure of displacement projects.

Such an approach may also help us take a more critical look at the very justification for such policies from the perspective of the migrant. Chinese policy makers are not very tolerant of criticism of displacement projects (Gemenne, Brucker, and Ionesco, 2012),

and even some academics express unbounded confidence in the positive results of these programs (Wang, Song, and Hu, 2011), which clashes with the results of empirical and field surveys. While it is essential to study and understand these projects of forced displacement, it is also necessary to keep in mind that other solutions are available to restore the environment while developing the local economy of concerned regions, such as the development of ecotourism, the co-management of local resource development projects, etc. In that respect, an approach that places migrants, their autonomy, and their strategies at the center of its analysis could be particularly useful.

References

BAI, Xue-Jun, and Li WEN, 2013, "An Effectiveness Analysis on Policy of Eco-migration in Ningxia and Reflections of Constructing a New Harmonious and Prosperous Ningxia," *Research of Agricultural Modernization*, Vol. 2, No. 2, pp. 159–162.

BANKS, Tony; Camille RICHARD, Li PING, and Yan ZHAOLI, 2003, "Community-Based Grassland Management in Western China: Rationale, Pilot Project Experience, and Policy Implications," *Mountain Research and Development*, Vol. 23, No. 2, pp. 132–140.

BAO, Zhi-Ming, 2006, "The Definition, Category and Some Other Issues about Ecological Migration," *Journal of The Central University For Nationalities*, No. 1, pp. 27–39.

BARNETT, Jon, and Saffron O'NEILL, 2010, "Maladaptation," *Global Environmental Change*, No. 20, pp. 211–213.

BARTOLOME, Leopoldo Jose; Chris DE WET, Harsh MANDER, and Vijay Kumar NAGRAJ, 2000, "Displacement, Resettlement, Rehabilitation, Reparation, and Development," WCD Thematic Review I.3, prepared as an input to the World Commission on Dams, Cape Town, www.dams.org.

CERNEA, Michael, 1997, "The Risks and Reconstruction Model for Resettling Displaced Populations," *World Development*, Vol. 25, No. 10, pp. 1569–1588.

CHEN, Guojia, 2007, "Strategic Thoughts and Suggestions of Eco-Migration in China," *Decision and Consulting Letter*, No. 5, pp.1–4.

DÉMURGER, Sylvie, and Haiyuan WAN, 2012, "Payments for Ecological Restoration and Internal Migration in China: The Sloping Land Conversion Program in Ningxia," *IZA Journal of Migration*, Vol. 1, No. 10, pp. 1–22.

DICKINSON, Debbie, and Michael WEBBER, 2007, "Environmental Resettlement and Development on the Steppes of Inner Mongolia, PRC," *Journal of Development Studies*, Vol. 43, No. 3, pp. 537–561.

DOWNING, Theodore E., 1996, "Mitigating Social Impoverishment when People are Involuntarily Displaced," in Christopher McDowell, ed., *Resisting Impoverishment: Tackling the Consequences of Development-induced Impoverishment*, Oxford, Bergham Books, pp. 33–48.

FOGGIN, Jean-Marc, 2008, "Depopulating the Tibetan Grasslands," *Mountain Research and Development*, Vol. 28, No. 1, pp. 26–31.

FOGGIN, Jean-Marc, and Marion TORRANCE-FOGGIN, 2011, "How Can Social and Environmental Services be Provided for Mobile Tibetan Herders? Collaborative Examples from Qinghai Province, China," *Pastoralism: Research, Policy and Practice*, Vol. 1, No. 21.

GEMENNE, François, 2009, "L'environnement, nouveau facteur de migrations?" in Christophe Jaffrelot and Christian Lequesne, eds., *L'enjeu mondial: les migrations*, Paris, Presses de Sciences Po., pp. 137–145.

GEMENNE, François; Pauline BRÜCKER, and Dina IONESCO, 2012, *The State of Environmental Migration 2011*, IDDRI.

GRUSCHKE, Andreas, 2012, "Tibetan Pastoralists in Transition. Political Change and State Interventions in Nomad Societies,"

in Hermann Kreutzmann, ed., *Pastoral Practices in High Asia: Agency of 'Development' Effected by Modernisation, Resettlement and Transformation*, Dordrecht, Holland, Springer, pp. 273–289.

GUSTAFSSON, Bjorn, and Ding SAI [paper], 2012, "Assessing Ethnic Disparities in Income and Poverty in China: The Case of Han and Hui in Ningxia," 32nd General Conference of The International Association for Research in Income and Wealth, Minnesota, October 11–13, 2012.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, 2007, "Climate Change 2007: Impacts, Adaptation and Vulnerability", Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge, Cambridge University Press, accessed May 21, 2015.

IREDALE, Robyn, Naran BILIK, and Fei GUO, 2003, *China's Minorities on the Move: Selected Case Studies*, Armonk, NY/London, M.E. Sharpe.

LI, Lihua; Chenggang WANG, Eduardo SEGARRA, and Zhibiao NAN, 2013, "Migration, Remittances, and Agricultural Productivity in Small Farming Systems in Northwest China," *China Agricultural Economic Review*, Vol. 5, No. 1, pp. 5–23.

LIAO, Chuan; Stephen J. MORREALE, Karim-Aly S. KASSAM, Patrick J. SULLIVAN, and Ding FEI, 2014, "Following the Green: Coupled Pastoral Migration and Vegetation Dynamics in the Altay and Tianshan Mountains of Xinjiang, China," *Applied Geography*, No. 46, pp. 61–70.

LIU, Yihai, and Qiong WANG, 2001, "Suitable Distribution of China's Population," *China Population, Resources and Environment*, Vol. 11, No. 1, pp. 34–37.

LIU, Jianguo; Shuxin LI, Zhiyun OUYANG, Christine TAM, and Xiaodong CHEN, 2008, "Ecological and Socioeconomic Effects of China's Policies for Ecosystem Services," *Proceedings of the National Academy of Sciences*, Vol. 105, No. 28, pp. 9477–9482.

MCDONALD, Brooke; Michael WEBBER and Yuefang DUAN, 2004, "Involuntary Resettlement as an Opportunity for Devel-

opment: The Case of the Urban Resettlers at the Three Gorges Dam in China," *Journal of Refugee Studies*, Vol. 21, No. 1, pp. 82–102.

MCLEMAN, Robert, and Lori HUNTER, 2010, "Migration in the Context of Vulnerability and Adaptation to Climate Change: Insights from Analogues," *Wiley Interdisciplinary Reviews: Climate Change*, May-June; Vol. 1, No. 3, pp. 450–461, accessed May 21, 2015.

MOL, Arthur, 2006, "Environment and Modernity in Transitional China: Frontiers of Ecological Modernization," *Development and Change*, Vol. 37, No. 1, pp. 29–56.

NASRITDINOV, Emil; Mehrigul ABLEZOVA, Jypara ABARIKOVA, and Aigoul ABDOUBAETOVA, 2010, "Environmental Migration: Case of Kyrgyzstan," *Environment, Forced Migration and Social Vulnerability*, Berlin, Heidelberg, Springer Berlin Heidelberg, pp. 235–246.

PADOVANI, Florence, 2004, "Migrations forcées et grands travaux hydrauliques en Chine: le cas du barrage des Trois Gorges," *Géocarrefour*, Vol. 79, No. 1, pp. 27–34.

PINGLIANG COMMISSION FOR AGRICULTURAL WORKERS, 2014, "Overall Research Report on the Relocation of Ecological Migrants in Pingliang," CPC Provincial Office of Rural Work in Gansu, accessed May 20, 2015.

POVERTY ALLEVIATION OFFICE, 2012, "List of Key Counties for National Poverty Alleviation and Development Work," Central Government Official Website, accessed May 20, 2015.

ROGERS, Sarah, and Mark WANG, 2006, "Environmental Resettlement and Social Dis/Rearticulation in Inner Mongolia, China," *Population and Environment*, Vol. 28, No. 1, pp. 41–68.

SHI, Guo-qing; Zhou JIAN, and Li JING-YI, 2007, "Protection of Rights and Interests and Government's Responsibilities: A Case Study of the Tarim River Ecological Migration as an Example," *Jilin University Journal Social Sciences*, No. 47, pp. 78–86.

SHI, Sui, 2008, "Living Condition and Social Adaptation of Sanjiangyuan Eco-Migration: Taking Case of Eco-Migration

in Golmud City from Changjiang Source," *Tibetan Studies*, No. 4, pp. 93–102.

SONG, Fan, 2000, "Strategies for the 'Aid-the-Poor' Migration Program in Ningxia Autonomous Region," *Human Geography*, Vol. 15, No. 5, pp. 47–51.

TAN, Yan, and Yi Qian WANG, 2004, "Environmental Migration and Sustainable Development in the Upper Reaches of the Yangtze River," *Population and Environment*, Vol. 25, No. 6, pp. 613–636.

TAN, Yan, and Xuchun LIU [paper], 2013, "In Situ Adaptation and Out-Migration: Enablers and Constraints Among Rural Households of the Mountainous Region of Southern Ningxia, Northwest China," XXVII IUSSP International Population Conference, Busan, South Korea, August 26–31.

TAN, Yan; Alec ZUO, and Graeme HUGO, 2013, "Environment-Related Resettlement in China: A Case Study of the Ganzi Tibetan Autonomous Prefecture of Sichuan Province," *Asian and Pacific Migration Journal*, Vol. 22, No. 1, pp. 77–107.

TANG, Hong; DeGang YANG, XinHuan ZHANG, and XinYi XIANG, 2012, "Ecological Migration Effects on the Tianchi Scenic Area in Xinjiang: From the Perspective of Migrant Farmer Families," *Journal of Arid Land*, Vol. 4, No. 1, pp. 95–104.

WANG, Zongming; Kaishan SONG, and Liangjun HU, 2011, "Response to 'Rethinking Ecological Migration and the Value of Cultural Continuity,'" *AMBIO: A Journal of the Human Environment*, Vol. 40, No. 1, pp. 100–101.

WEBBER, Michael, and Brooke MCDONALD, 2004, "Involuntary Resettlement, Production and Income: Evidence from Xiaolangdi, PRC," *World Development*, Vol. 32, No. 4, pp. 673–690.

WEST, Jennifer J., 2009, "Perceptions of Ecological Migration in Inner Mongolia, China: Summary of Fieldwork and Relevance for Climate Adaptation," Oslo, Norway, CICERO Report 2009:05.

WILMSEN, Brooke; Michael WEBBER, and Yuefang DUAN, 2011, "Involuntary Rural Resettlement: Resources, Strategies, and

Outcomes at the Three Gorges Dam, China," *The Journal of Environment and Development*, Vol. 20, No. 4, pp. 355–380.

XUE Xin-le, LIU Zhi-Ping, and TIAN Guo-Jiang, 2011, "Study on Ecological Restoration and Management Problems of Ecological Out-migration area in Longde County of Ningxia," *Journal of Gansu Forestry Science and Technology*, Vol. 36, No. 4, pp. 53–54.

WU, Zhandong, 2012, "Report on the Implementation of the '12th Five Year Plan' of Ecological Migration in South-Central Ningxia," Bureau of Immigration of the Ningxia Autonomous Region.

ZHAN, Xiao Lin, 2008, "Study on the Value Estimation and Compensation Mechanism of Ecological Migration in Sanjiangyuan Area," *Ascent*, No. 6, pp. 66–69.

Date of receipt: March 6, 2015.
Date of acceptance: July 6, 2015.