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Resettlement areas along the Mekong River Delta. © Peter Scholten, 2015

Relocation as an adaptation strategy to environmental stress

Lessons from the Mekong River Delta in Viet Nam

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Relocation, in some cases, can offer an adaptation strategy to environmental change. The World Bank has defined relocation as “a process whereby a community’s housing, assets, and public infrastructure are rebuilt in another location” (World Bank, 2010:77). This policy brief examines relocation (sometimes also described as “resettlement”) as a method for adapting

to environmental stress in specific areas where other strategies, such as land and water management, are not feasible. It takes the Mekong River Delta in the south of Viet Nam as an exemplary case where relocation has already been implemented for quite some time, enabling an understanding of the rationale behind relocation, as well as its effects.



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This policy brief shows that to make relocation a success, specific factors have to be taken into account, such as the distance of relocation, as well as the preservation of livelihood in the resettlement areas. This policy brief is based on a review of secondary literature on climate change and migration in Viet Nam in particular, and on the authors' recent study trip to the Mekong River Delta, which included panel discussions with local stakeholders, as well as visits to several resettlement sites.

Environmental change and migration

Climate change and broader processes of environmental change can be important drivers of migration. As it is very hard to distinguish environmental migration from other types of migration, scholars tend to use the term “environmentally induced migration” (Jäger et al., 2009). Research has shown that specific to environmentally induced migration is that those who see themselves forced to move do not tend to go very far from home (Jäger et al., 2009; Entzinger et al., 2010). In contrast to labour migration that is often triggered by push factors in the area of origin, as well as specific pull factors in the area of destination, environmentally induced migration tends to be driven only by push factors. In this respect, a difference should be made between environmental migration induced by slow-onset developments, such as sea-level rise and sudden-onset migration, such as displacement caused by typhoons.

The Migration, Environment and Climate Change: Evidence for Policy (MECLEP) project comprises various studies that aim to find out how migration can offer an adaptation strategy to environmental change (Lackzo and Aghazarm, 2009; Black et al., 2011). There are, of course, many adaptation strategies, including technical ways of reshaping the landscape to limit the effects of environmental change (for instance, dike construction and controlling erosion) or altering construction methods of homes to be less vulnerable to the effects of environmental change (such as constructing houses on poles or floating houses). In the MECLEP project, mobility or migration is considered as an alternative strategy, and aims to develop a better theoretical and empirical understanding of conditions that make the different forms of migration an adequate adaptation strategy that can be developed and implemented in effective ways.

Relocation of vulnerable communities is a specific method for responding to environmental change. It tends to be used in situations where alternative strategies are not feasible due to natural, technical or cost constraints. While relocation is also considered an option in other

countries examined in the MECLEP project (Dominican Republic, Haiti, Kenya, Mauritius and Papua New Guinea), none of these has implemented it at the scale in which Viet Nam has done so (Chun and Sang, 2012; UN Viet Nam, 2014). In fact, relocation can be considered a specific form of migration. Its specificity lies primarily in the fact that it is usually a collective endeavour, which affects an entire community, and that it covers relatively short geographical distances. Besides, it mostly has a planned, and sometimes even a forced character, mainly because environmental conditions make it impossible to continue living at the original location.

The Mekong River Delta

One of the key focal areas of relocation programmes is the Mekong River Delta in the south of Viet Nam. This highly fertile delta is formed by the Mekong River that takes melting water from the Himalayas and rainwater from its tributaries to the South China Sea. The delta has over 18 million inhabitants. The dependency on very specific agricultural products (rice, fish and fruits) and the relatively weak development of industries and services in much of the Mekong River Delta imply that the area is particularly vulnerable to environmental changes that impact on agriculture. Such changes particularly include sea-level rise, salinity intrusion, river flooding and erosion of river borders. Over half of the Mekong River Delta's population live in areas of less than 2 metres above sea level, and a much larger proportion lives in direct proximity of rivers in risk of seasonal flooding.

Especially over the last 10 years, the frequency and extent of flooding has increased. During the authors' recent mission to Viet Nam, they were told that over the 2009–2014 period, more than 28,000 houses were flooded in the Mekong Delta, with a total damage of over 240 billion Viet Nam dong (EUR 9.8 million or USD 11 million). This is linked particularly to global warming, causing more melt water from the Himalayas to run in shorter periods through the Mekong River. At the same time, global warming is provoking a gradual sea-level rise affecting fisheries in the coastal areas but also leading to saline intrusion and degradation of agricultural lands (see also Tran, 2012). Finally, seasonal storms have also intensified, impacting coastal areas in particular, but also contributing to more inland erosion.

Environmental stress in the vulnerable Mekong River Delta has already contributed to significant migratory flows over the last decade. This includes migration within the delta, as well as the formation of a migration corridor between the Mekong River Delta and the Ho



The Mekong River Delta. © Peter Scholten, 2015

Chi Minh City area. From 2004 to 2009, net migration from the Mekong River Delta to the south-eastern region (the region around Ho Chi Minh City) counted as high as 714,000, which is by far the largest migration corridor within Viet Nam (GSO, 2009). On a smaller scale, migration towards cities is also taking place within the delta, particularly in the provincial capitals and the larger urban area of Can Tho (Tran, 2012). Migration towards the Mekong River Delta from other Vietnamese provinces is very low, although migrants (individually and in households) sometimes migrate back and forth within the corridor between the delta and Ho Chi Minh City in particular.

Spontaneous migration from the Mekong River Delta face specific constraints due to the Vietnamese system of registering inhabitants, the so-called *ho khau* system, under which access to services such as health care and education is connected to the household book or “red book”. In order to obtain full access to local services, migrants need to register in the communes where they wish to settle (Dang, 2009). This can involve a permanent or temporary registration. However, if migrants are unable to register, they can either continue to live in an area while in a vulnerable position due to lack of access to services, or choose to return to their commune of origin. New legislation has been passed to make the registration of migration between provinces

more efficient, but research suggests that the impact of this new legislation has so far been rather limited (Chun and Sang, 2012).

Relocation projects

Throughout the Mekong River Delta, relocation projects have been developed for areas most affected by environmental stress. These projects are designed and implemented by the Government of Viet Nam, sometimes in cooperation with organizations, such as the World Bank and the Red Cross. Relocation is not new within the Vietnamese context, with many relocations taking place between various provinces and between the north and the south over the last decades (UN Viet Nam, 2014). In this sense, the Government and the people of Viet Nam have already become more used to government-assisted relocation that may be the case in many other countries.

What is new, at least since about 1996, is the connection made by the Government of Viet Nam between environmental change and relocation. After serious flooding in 2000, this connection was established in a comprehensive programme called “Living with Floods” (Vo and Mushtaq, 2011). This programme introduced various adaptation strategies to climate change

throughout Viet Nam, including resettlement (for the most recent update of the programme, see: CCFSC, 2012). According to this programme, over 90,000 households were to be relocated in the 2009–2013 period within the Mekong River Delta (CCFSC, 2009; UN Viet Nam 2014, 3).

Relocation projects in the Mekong River Delta mostly involve resettlement of households to more stable living places, such as safe residential zones on dikes. This usually involves migration between communes or sometimes even within different parts of a commune, rather than between districts or provinces. Such resettlements over relatively short distances enable the households involved to preserve their previous sources of income while stabilizing their living places (see also UN Viet Nam, 2014). Most resettlement occurs voluntarily. If migrants accept relocation, they are provided with a certificate

that entitles them to the use of a specific piece of land (which means de facto land ownership), as well as loans for constructing a new home.

In the coastal areas surrounding Nam Can district in Ca Mau province, for example, various resettlements took place over relatively short distances so that fishermen could continue their fishing activities. In the 2005–2010 period, an estimated number of 4,000 households were relocated within Ca Mau province. In Ho Gui, a small commune on the Mekong River Delta's east coast, households that depended mostly on fishery were relocated to a safe residential dike about a kilometre away from their previous settlement in a project supported by the Red Cross. This allowed them to continue working on their old fishing grounds. In nearby Khai Long, households that were affected most strongly



Houses and roads now stand in the water as the land erodes on the coast in the Mekong Delta region of Viet Nam.

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by erosion were relocated to a safe residential zone closer to the centre of the commune. Resettlements took place over a relatively longer distance in Tan An, another small commune on the east coast. In Tan An, almost 2,000 households were relocated to a resettlement zone further away from the coast. In this case, households were unable to maintain their old fishery grounds, and found that their new lands did not provide sufficient opportunities for maintaining a similar economic livelihood as before. Consequently, many households again sold their land and either moved back to their original grounds to engage in traditional fishery and shrimping activities, or went to seek employment in an urban, industrial setting.

Relocation projects are often combined with measures to protect the residential zones from the effects of environmental stress and broader programmes of institutional development for these zones, such as the establishment of nature reserves. This may involve setting up various establishments, such as schools, industries, marketplaces and health services. This makes resettlement zones significantly more attractive to households, but also offers opportunities for diversification of economic activities and income growth. Such broader programmes may be particularly pertinent when resettlement over longer distances is involved or when households have to find new sources of income. Research suggests that when migrants have no trust that their income can be preserved or enhanced, they are unlikely to accept resettlement (Chun and Sang, 2012).

In Can Tho province, for instance, in the heart of the Mekong River Delta, local stakeholders indicated that relocation had been combined with the foundation of new factories and investments in vocational training. This decreased dependency on traditional crops, as knowledge of other crops and commodity production were being facilitated. According to provincial authorities in Can Tho, between 2015 and 2020, more than 11,500 households would be resettled in various locations, including, in some cases, in Can Tho city.

The formation of broader migration corridors

Whereas relocation projects often involve relatively short distances between and sometimes even within communes, these seem to provide a starting point for migratory careers that involve longer distances. Discussions with inhabitants of resettlement zones during the site visits in the Mekong River Delta made

clear that in some cases, this involves migration to urban centres in the delta. In most cases, however, a direct migration corridor with Ho Chi Minh City has developed.

Migration to Ho Chi Minh City can take place in the household level, as well as in individuals (a household survey to be conducted for the MECLEP project will determine the balance between these two). When it takes place at an individual level, it can be considered part of a broader diversification of strategies to find alternative sources of income for the household. In some cases, a family member temporarily goes to Ho Chi Minh City during seasons when agriculture or fishery is low, or for a limited period for education or other specific purposes. In other cases, individual members or entire households may migrate permanently to Ho Chi Minh City to find new opportunities. Such migration, however, is complicated by the registration system (*ho khau*). In some cases, this restricts opportunities for (permanent) settlement in Ho Chi Minh City, even though the system is less complicated now than it was before.

Discussions with stakeholders have made clear that resettlement may indirectly contribute to migration to Ho Chi Minh City. Particularly when resettlement also involves schooling, training and some increase in livelihood, resettled inhabitants sometimes appear to move on further. This can begin with having the opportunity to send household members to Ho Chi Minh City for education or seasonal labour, thus helping diversify the household income, but it can end with entire households moving to Ho Chi Minh City to pursue opportunities there. As such, resettlement can be at the start of migratory careers of individuals and households. At the same time, there are also many reports of families and individuals returning from Ho Chi Minh City after having failed to secure a stable living there.

Migration literature has shown that migration corridors, once consolidated, tend to generate various sorts of remittances to the regions of origin. This can involve economic remittances (sending home money or goods), as well as cultural and social remittances, such as the transfer of skills and knowledge and the opening up of new social networks. In theory, this can also contribute to climate change adaptation, as such resources may be used to enhance resiliency in the face of environmental stress. However, talks with resettled migrants show that remittances are very limited, especially as the income earned in Ho Chi Minh City often barely covers the (higher) living costs in that area.

Key factors for successful resettlement

The MECLEP project will carry out further in-depth research into how and under what conditions resettlement can offer an adaptation strategy to environmental stress and how it relates to the formation of broader migratory corridors. This includes a representative household survey among residents of key resettlement areas in the Mekong River Delta, as well as those who migrated to Ho Chi Minh City. In addition, focus groups will be held with organizations and community leaders involved in resettlement projects, as well as in-depth qualitative interviews with policy stakeholders.

This policy brief highlights a number of points on which the MECLEP research is to focus more in depth. Income preservation, or generally the preservation of livelihood, is probably the most important condition for resettlement. Especially when residents are strongly dependent on their lands for their income – for instance, in the case of farming and fisheries (such as shrimp farms) – the risk of losing income can limit their willingness to relocate. In the cases examined in Viet Nam, income preservation was particularly important due to the loan system associated with the relocation projects; a decrease of income would in fact lead to a growing dependency on loans.

This relates to another factor, which is the distance of relocation. If relocation occurs over short distances, the population involved may be able to maintain its economic activities. They can continue working on their agricultural or fishery lands while living in more stable places. They can also preserve their social networks, which act as a source of information and safety net against financial shocks. The downside of this type of relocation may be that it does not lead to a diversification of activities, which means that the vulnerability of households remains. During the site visits, the authors met women who indicated such instances; whereas relocation had helped their husbands preserve their economic activities, this had not led to new activities and opportunities. Moreover, in the face of an expected further increase of environmental stress in the near future, the stability of new settlements cannot always be fully guaranteed either. Hence, one can question to what extent such short-distance relocation is indeed an effective “adaptation” to environmental stress.

When relocation involves larger distances, it is important that it is embedded into broader programmes of economic and institutional development of residential zones. This involves schooling and training that allow migrants to develop new skills and adapt to the new situation, such as job training programmes organized in Can Tho. It may also involve developing a more diverse range of economic activities, such as construction of new factories, development of handcrafts, and in some cases, the development of tourism.

Finally, relocation to specific areas should always be seen in a wider perspective that includes broader and more spontaneous patterns of migration in areas affected by environmental stress. It has been argued that relocation often proves to be a starting point of more extensive migratory careers in which individuals or households engage in spontaneous migration over longer distances. For the case of the Mekong River Delta, this is where environmental stress and relocation projects link up directly with the formation of a migration corridor to Ho Chi Minh City in particular.

This shows that a better understanding of migration as an adaptation strategy to environmental stress will also lead to a better understanding of the formation of migration corridors to Ho Chi Minh City. Developments in the Mekong River Delta indicate the significance of Ho Chi Minh as a destination for migrants. Evidently, the strength of this migration corridor will depend on both push and pull factors. The authors have already seen that the pull factor from Ho Chi Minh City, although relatively strong – the city is the largest net immigration area in Viet Nam – has not been strong enough to sustain all households that have migrated from the Mekong River Delta. Some have indeed returned disillusioned. However, given the very positive economic outlook for Viet Nam in general and for Ho Chi Minh City in particular, this pull factor can be expected to increase, with important implications for that city (Haugton et al., 2010; Dang, 2011). On the other hand, given the sustained increase of environmental stress in the Mekong River Delta, push factors for migration out of that area to Ho Chi Minh City can be expected to become stronger. This goes for the slow-onset impacts of climate change, but perhaps even more so for unforeseeable sudden-onset events, such as typhoons and big floods like the ones that occurred in 2000 and 2011.

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