



Using Involuntary Resettlement on Highway Projects to Alleviate Poverty: A Case Study from the Hubei Shiman Highway Project in China

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When properly designed and implemented, involuntary resettlement on highway projects can be used to improve the overall living conditions and alleviate poverty for those affected by the project.

This technical note describes how this was achieved on the Shiyang-Manchuangan Expressway project in Hubei China. By focusing on sustainable land development, improving housing standards, better access, and centrally-planned communities, the project has led to an improved quality of infrastructure and livelihoods for most affected residents. Public participation and continuous dialogue with affected parties throughout the project helped address resident concerns and contributed to the positive outcome. These practices can be applied elsewhere to help achieve satisfactory resettlement outcomes.

Involuntary Resettlement in China

Resettlement can be a challenge in any transport project, particularly in China with its high population densities and limited available unused land. However, when a project's resettlement activities are properly designed and have the full support of the client, it is possible to overcome the challenges and have a successful outcome for those affected by the project.

This note highlights the factors which contributed to the successful resettlement activities under the Hubei Shiyang-Manchuangan Expressway (Shiman) project, with particular emphasis on how they contributed towards poverty alleviation for most affected persons. These practices can be applied in other projects to have similar successful resettlement outcomes.

The Shiman Highway Project

The Shiman highway project is located in the mountainous north-west of Hubei province which is in central China. It consists of a 107 km expressway which travels from near Shiyang City to the border with Shaanxi province.

In accordance with the World Bank's safeguard policies, a 'Resettlement Action Plan' (RAP) was prepared and disclosed prior to the start of construction. This described the extent of resettlement, identified affected persons and resources, defined how resettlement would be addressed, as well as the institutional arrangements.

In the project, four counties had some 780 ha of land requisitioned, including about 363 ha of cultivated land. There were 1,480 households relocated, involving 5,007 persons. The area of



Shiman Alignment

buildings removed was 249,646 m², including 69,554 m² of brick-concrete buildings, 32,470 m² of brick-wood buildings, 114,621 m² of earth-wood buildings and 33,001 m² of simple buildings. The extent of the resettlement activities was typical in China for an expressway project.

Resettlement Organization

There are no detailed national requirements for resettlement in China. A comprehensive resettlement program was designed and implemented by the provincial resettlement group. This was led by a vice governor and comprised of officials from the Hubei Provincial Communications Department (HPCD).

The HPCD was actively involved throughout resettlement planning and operations. They took a pro-active approach in addressing resettlement issues. Through their experiences on two previous Bank financed projects, the HPCD had learned that by ensuring effective resettlement there would be fewer complaints and potential for legal actions which would serve to slow down project implementation. Furthermore, the province was committed to reducing poverty and supporting the national government's 'New Socialist Countryside Plan'. This concept emphasizes poverty reduction, centralized village sites and land development favorable to local farmers.

The HPCD established the Hubei Expressway Resettlement Office (HERO) to manage operations and ensure compliance with the RAP. HERO supported a multilevel organizational framework to plan and implement resettlement, with resettlement offices at different levels of governments, including project level and city, county, and township levels. All local offices were staffed by suitably qualified resettlement specialists who received training as necessary.

HERO was involved in all stages of the resettlement, from pre-construction through implementation to completion. By having an experienced and capable team which did not change during the project, the quality of the resettlement activities was ensured.



New Homes for 15 Resettled Families in Wuyuping

One of the project's objectives was to ensure that replacement houses were available prior to the demolition of existing houses. To achieve this, over 18 months before construction commenced in November 2004 field surveys started to identify those who would be affected by the project. Particular emphasis was placed on the poor who have limited income resources to reconstruct their new houses, and how to undertake village based land development plans. Teams of local government officials, representatives of villages, the Hubei Land Resources Administration Department and the HPCD participated in these surveys.

An independent consultant was used to monitor resettlement effectiveness. They provided bi-annual reports as well as summarized the final results.

"... the resettlement under the expressway makes us walk out ... from a mountainous area to a roadside, from earth house to brick house, from single story building to multi-storied house, from inside of the mountain to the outside, and from village to township, and it also provides our offspring with a hope."

Villager

Management and Distribution of Resettlement Funds

Since in China land is collectively owned, the local villages played an important role in the resettlement activities. They were directly responsible for the distribution of resettlement funds, which was done as follows:

- The affected villages submitted detailed explanations of how they were affected by the project to the appropriate resettlement organization.
- The resettlement organizations at all levels and the local governments carried out training for village-level administrative departments and directed them to formulate appropriate development plans and resettlement fund use plans in a transparent manner.
- The village-level administrative departments negotiated with the affected persons, establishing the final resettlement fund use plans. These were submitted to the county/district level resettlement offices for review.
- The county/district level resettlement organizations reviewed the resettlement fund use plans and helped the villages to perfect them. No resettlement funds would be disbursed to a village without a feasible resettlement funds use plan.
- The county/district level resettlement organizations reviewed and approved the village-level resettlement fund use plans and then disbursed the resettlement funds gradually according to the approved plans.

The compensation for houses and structures were paid to the affected population directly. The county/district or township resettlement offices opened special accounts in local banking institutions for affected units, collectives or individuals and directly paid the compensations into the accounts.

The resettlement offices at all levels copied the documents of compensation rates issued by HERO and sent them to each relocated household, as well as publicizing them in public places.

In some locations the relocated households received their compensation passbooks directly from township resettlement offices, while in others the resettlement offices gave cash passbooks to relocated households. One county resettlement office insisted on paying compensation in such a way that the compensation rates and amount of money were publicized and passbooks of compensations were filled in by banks.

These passbook approaches reduced the intermediate steps in receiving compensation, avoiding potential deductions and misappropriations. The relocated households took all their compensation as soon as possible to cover the costs of new house reconstruction.

Public Participation

The project undertook an extensive public consultation program throughout the entire project. Sixty-six villagers' committees and 40 community neighborhood committees were involved in resettlement land development plans. Additionally, members of the 46 villages affected by the project had the opportunity to participate in the planning and decision-making surrounding land acquisition and resettlement.

This proved to be of great value to helping not only improve the effectiveness of resettlement activities, but also the overall project. The contributions from the public included



Consultation With Villagers

suggestions on: the expressway alignment, the selection of centralized resettlement sites prior to relocation, allocation of housing sites in centralized resettlement sites, land reclamation, the allocation and use of collective compensation, the location and design schemes of culverts and underpasses.

The following measures were adopted to help ensure transparency of resettlement:

- Before land acquisition and relocation began, announcements were made in public places in all townships and villages along the expressway. These gave an overview of the Shiman project and the main policies and measures for resettlement.
- The RAP was publicized at all areas along the expressway so the affected population would have access to it.
- The HERO printed and issued a 'Resettlement Information Booklet' to each affected household.
- The Booklet contained the overview of the project, national and local policies and laws, compensation rates for various affected objects, and the number of affected family members in the household entitled to compensation.

- When the implementation of land acquisition and relocation began, the resettlement organizations at all levels issued resettlement information to affected persons by television, radio, leaflets, wall-newspapers and villager's conferences.

Addressing Grievances

The project put in place procedures for receiving and addressing complaints. These were dealt with in a timely manner. The principal complaints consisted of:

- Inconvenient or delayed provision of sewers, roads, electricity and/or water to resettlement sites;
- Landslides around resettlement sites;
- Inadequate funding for basic facilities at centralized resettlement sites;
- Damage to irrigation systems;
- Using land compensation fees to pay debts;
- Dissatisfaction with assigned housing sites assigned by the village;
- Blasting damaging near-by structures and/or windows; and,
- Insufficient land reallocated for residents.

When grievances were identified, specific actions were taken to ensure that they were addressed to the satisfaction of all parties.

An example of the effectiveness of the grievance process was shown when a complaint was made to a World Bank supervision mission concerning a house site. The HERO immediately investigated and came up with a satisfactory solution. The independent monitor confirmed the affected person was satisfied with the outcome. This was verified by a subsequent Bank mission.

Resettlement Strategy

From the very start, the project adopted a number of specific objectives with regard to resettlement:

Minimize Resettlement Impact: The road alignment was optimized at the design stage, and if possible during construction, to minimize the resettlement impact. This served to reduce the total amount of land required by the project by over 26% from preliminary estimates, and the number of affected persons by over 25%.

Save Cultivated Land: Due to the mountainous terrain, for much of the alignment, there is a scarcity of land available for cultivation. As villagers in the area rely on farming for survival, an emphasis was placed on limiting impacts to these cultivated areas. During the design stage in some areas the alignment was modified to protect cultivatable land. In rural areas of China for generations many farmers dreamed of building new houses. Old houses in rural area have little value, specific to the earth-wood houses. After broad public consultations the HPCD decided to increase house demolition and reduce cultivated land acquisition. Compensation rates for house demolition were increased by the HPCD for this purpose. These efforts resulted in savings in cultivatable land acquired from 11% to 57% depending on the type of land.

Create New Arable Land:

Over 113 ha of arable land were created in one of three ways. The most common method (over 93 ha) was by using waste earth from the construction activities to fill ravines. After leveling, they were provided topsoil to become cultivated land. Waste earth was also used to fill barren waste and cold spring paddy fields which changed them from no/low yield to high-yield farmland. Finally, in conjunction with the contractors, construction machinery was used to convert barren slopes into terraces. These newly created lands were returned to rural communities for cultivation without any extra charges or deductions of resettlement funds.



Crops Planted on New Arable Land

Resettlement to Escape Poverty: Poverty, defined by national standards as less than the average GDP per capita (8,319 Yuan in Hubei Province in 2002), is ubiquitous in the project area. Indeed, some areas that the Shiman expressway passes through have extremely limited land resources placing strain on the production and lives of the area’s residents. Some 16 families were relocated to areas with more abundant land and commercial opportunities, and provided additional funding to help them become established. This program was fully supported by those involved who saw no future in their previous locations.

Centralize Resettlement Sites: The terrain did not always make it practical for building sites to be re-established near the original locations. Where scattered resettlement was not practical, to better utilize village infrastructure and services, centralized resettlement sites were established with the support of

affected villagers. This required the leveling of terrain, supply of new infrastructure such as water supply, power supply and road access, all of which were arranged by the project. Over 20 centralized sites were established and over 95% of the residents were satisfied with the arrangements and considered that they had improved living conditions.



Xujiapeng Resettlement Site

Restore Roads and Irrigation Systems: The construction of an expressway will always impact village roads and irrigation systems, especially during the early stages when there are major earthwork activities.



New Aqueduct Provided by Project

During this period, so as not to unduly affect the production and lives of the residents along the expressway, the project either put in place temporary restoration measures to protect their functions or built new substitutes.

Monitoring and Evaluation

Resettlement monitoring was crucial to ensuring the success of the program. Several methods were utilized for monitoring and evaluation of resettlement activities including: (i) establishing standard reporting systems; (ii) regular liaison meetings with city, county and district resettlement offices; (iii) regular reporting on local progress and existing problems, exchanging experiences, and adopting solutions; (iv) carrying out regular field inspections; and, (v) maintaining the public participation process throughout, including continual dialogue about resettlement suggestions and views from those affected by the project.

The following monitoring indicators were adopted by the independent consultant to monitor resettlement effectiveness:

- Familiarity of affected persons with the resettlement process;
- Submission and availability of monitoring reports to the resettlement organizations at all levels;
- Regular visits to resettlement organizations to gauge work progress;

- Collection of comments on resettlement work from affected populations;
- Collection of resettlement information from local residents via surveys;
- Holding community meetings in public areas convenient to affected residents in order to collect information;
- Regular visits to resettlement sites;
- Examination of activities from similar projects to obtain lessons learned, etc.; and,
- Maintaining connections with affected populations through materials distribution (booklets, or by telephone, letter, or emails) to disseminate information and increase transparency.

Finally, as described below, at the completion of the project the World Bank arranged for a detailed survey to be made to assess the effectiveness.

Effectiveness of the Resettlement Program

“Even if now I have a rough time for moving, I am pleased because this benefits our own offspring.”
Villager

The resettlement activities can be divided into three stages:

- **Housing:** Starting in 2004, the first activities focused on replacing houses;
- **Infrastructure:** After housing, from mid-2005 the emphasis was on land reclamation, recovery of production, and associated activities such as irrigation and rural road reinstatement; and,
- **Finalization:** After the first two stages of resettlement were essentially completed in late 2006, the focus was on identifying any omissions or other problems to ensure that the livelihoods were restored.

In late 2007, on behalf of the World Bank, the independent resettlement consultant assessed the overall performance of the resettlement program. The assessment randomly sampled 20% of the affected households. Some 79% of those sampled were affected by land acquisition and relocation; 16% relocation only, and 5% land acquisition only. A total of 1,295 persons were involved in this survey, including 775 laborers (above 16 years old, no students) and 406 persons doing farm work at home.

The effectiveness of the resettlement program was assessed in terms of: (i) physical infrastructure; and (ii) satisfaction with resettlement:

Physical Infrastructure Effectiveness

Improvement of Housing Standards: There are two measures of housing quality: (i) the type of building materials used; and (ii) the number of floors. Prior to the project, the majority of houses were single story earth-wood houses over 15 years old. After the project, there were no earth-wood houses, and most were two-story houses. The size of homes also increased. Prior to the project some 28% had floor areas below 100 m², and only 18% had more than 180 m². Afterwards, only 9% were below 100 m² and 80% were over 180 m².



Earth-Wood House



New Brick-Concrete House

Table 1: Total Change in Housing Materials

Brick-concrete		Brick-wood		Earth-wood	
before	after	before	after	before	after
26%	97%	16%	3%	59%	0%

Table 2: Total Change in House Type and Size Before and After Resettlement

One-floor		Two or More Floors	
before	after	before	after
84%	12%	16%	89%

Isolation: Owing to the mountainous area, many houses were isolated with limited access to roads. Before the project, 21% were within 10 m of a road, and 16% were over 500 m from a road. After the project, 33% were within 10 m of a road, and only 3% were over 500 m from a road. The average distance to a road was reduced by 55%.

Access Improvements: There were three different types of access to their houses: (i) no formal roads; (ii) simple walkways; and, (iii) formal roads. Only 5% had no formal roads before the project, afterwards this was reduced to 0%. The number with access through formal roads was increased from 41% to 75%. Many

displaced resettlements also now have access to the Shiman expressway as a result of the resettlement efforts and connecting roadways. This increase in access further supports an increased quality of life through improved market, education, and social service access.

Improvement to Drinking Water: There were three different sources of water available: (i) river and pond water; (ii) well water; and (iii) tap water. Whereas at the start of the project some 64% of the households had access to tap water, this increased to 76% after the project. Those using river and pond water declined from 9% to 1%. These were three isolated households with access to unpolluted clean river water.

Access to Electricity: Electricity access at the start of the project was very high, and by the end of the project all households had access to electricity.

The resettlement program was therefore successful insofar as: (i) most relocated households lived in better quality, larger multi-storied houses; (ii) there was better access to roads, and this access was through higher quality facilities; and (iii) all households had access to electricity, and many to improved water supply.

Satisfaction With Resettlement

The post-resettlement survey asked whether people were satisfied with the resettlement process, and whether they had an increase in their standard of living and quality of living environment.

When considering satisfaction, it needs to be appreciated that the some 42% of those resettled would have been pleased to be resettled even in the absence of the project. This percentage varied by location, reflecting the fact that some areas were particularly isolated and/or more mountainous with less arable land than others.

As shown in the table below, there was an increase in the standard of living for some 71% of those resettled, and a majority also experienced an improvement in the quality of living. Only a comparatively small percentage considered themselves worse off.

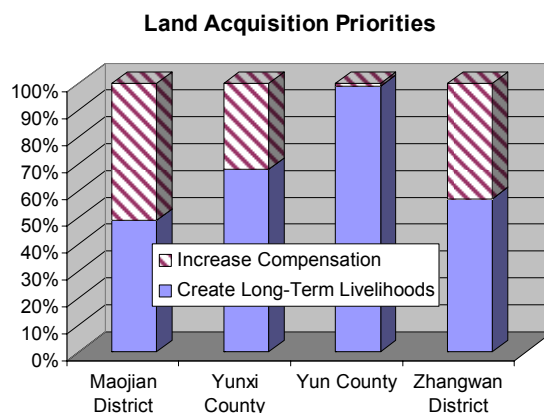
Table 3: Assessment of Resettled Conditions

	Better	Unchanged	Worse
Standard of Living	71%	16%	13%
Quality of Living Environment	51%	32%	17%

When asked for their views on their overall satisfaction with the resettlement process, 42% were very satisfied; 32% were satisfied and 26% were unsatisfied. Those who were unsatisfied indicated that this was because of: (i) an unsatisfactory compensation rate because the actual cost of brick houses differed to the replacement cost for earth-wood houses (46%); (ii) inadequate transparency of the compensation (7%); (iii) issues arising from the relocation and resettlement (22%); and, (iv) no place for those resettled to raise livestock due to the centralized resettlement (25%). The importance of the different issues varied depending on the location.

It was suggested that the satisfaction would be increased by: (i) raising the compensation rates to better reflect the actual situation (48%); (ii) pay better attention to infrastructure construction (26%); (iii) carefully consider the working needs and daily lives of peasants when planning new housing sites (22%); and (iv) pay more attention to the participation of the displaced persons during the rehabilitation (4%). However, in spite of compensation rates forming such a dominant role in dissatisfaction, 80% surveyed thought it was reasonable to adopt the compensation rate provided for in national land compensation legislation.

Despite the number of villagers claiming dissatisfaction with the resettlement program based on inadequate compensation rates, the survey results suggest a higher value should be placed on preserving long-term livelihoods by maintaining land for cultivation and providing suitable infrastructure. This is illustrated in the chart below.



Conclusions

Despite many challenges, including limited available arable land, the resettlement efforts associated with

the Shiman project are considered to be a success both in terms of physical infrastructure provision and overall satisfaction with the resettlement outcome. Some 71% have a better standard of living, and 51% better quality of living environment.

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The resettlement strategy adopted can be applied to many transport projects, particularly in China. This strategy included: (i) minimize resettlement impacts through proper alignment selection; (ii) preserve cultivated lands; (iii) create new arable land; (iii) view resettlement as an opportunity to alleviate poverty and improve the standard of living; and (iv) preserve and restore existing roads and irrigation systems.

The experience confirms the importance of ensuring that replacement houses are available prior to the demolition of existing houses. Particular attention should be paid towards providing sufficient compensation to replace assets at prevailing market prices. The implementation of income restoration activities should be done as quickly as possible.

The success of the resettlement program can largely be attributed to: (i) effective leadership by the HPCD; (ii) efficient management and distribution of resettlement funds; (iii) the use of public participation throughout the entire project, including responsiveness to villager issues and concerns; (iv) effective procedures for receiving and addressing complaints; and, (v) dealing with complaints in a timely manner.

The focus of resettlement activities should be on assisting those affected to establish long-term livelihoods.

Some issues still continue to be resolved, including appropriate access to infrastructure services – energy and water. Despite these remaining issues, most residents feel their quality of life has increased as a result of this project.

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[Reports](#) and other information on the project can be downloaded from:

<http://tinyurl.com/255rny>