

TRANSPORT NOTES

TRANSPORT ECONOMICS, POLICY AND POVERTY THEMATIC GROUP



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Notes on the Economic Evaluation of Transport Projects

In response to many requests for help in the application of both conventional cost benefit analysis in transport and addressing of the newer topics of interest, we have prepared a series of Economic Evaluation Notes that provide guidance on some of issues that have proven more difficult to deal with.

*The **Economic Evaluation Notes** are arranged in three groups. The first group (TRN-6 to TRN-10) provides **criteria** for selection a particular evaluation technique or approach; the second (TRN-11 to TRN-17) addresses the selection of values of various **inputs** to the evaluation, and the third (TRN-18 to TRN-26) deals with specific **problematic issues** in economic evaluation. The Notes are preceded by a **Framework** (TRN-5), that provides the context within which we use economic evaluation in the transport sector.*

The main text of most of the Notes was prepared for the Transport and Urban Development Department (TUDTR) of the World Bank by Peter Mackie, John Nellthorp and James Laird, at the Institute for Transport Studies (ITS), University of Leeds, UK (The draft text of Note 21 was prepared for ITS by I.T. Transport Ltd). TUDTR staff have made a few changes to the draft Notes as prepared by ITS. Funding was provided from the Transport and Rural Infrastructure Services Partnership (TRISP) between the Department of International Development (DFID) of the Government of the United Kingdom and the World Bank.

The Notes will be revised periodically and we welcome comments on what changes become necessary. Suggestions for additional Notes or for changes or additions to existing Notes should be sent to rcarruthers@worldbank.org

EVALUATION OF RESETTLEMENT COMPENSATION PAYMENTS

RESETTLEMENT, AND THE WORLD BANK'S POLICY

Resettlement occurs when a transport project displaces people whose homes and workplaces are on land taken up by the project. Resettlement can cause severe hardship and impoverishment if the individuals resettled are vulnerable and the effects upon them are not properly mitigated. The risks include: breakdown of economic production leading to a loss of income; destruction of productive assets; relocation of people to environments where their productive skills may be less applicable and the competition for resources greater; weakening of community institutions and social networks; dispersal of kin groups; loss of – or reduction in – cultural identity, traditional authority and systems for mutual help.

In order to mitigate these risks at the project design stage, the Bank has an Operational Policy [ⁱ1] and Bank Procedures [ⁱⁱ2] on involuntary resettlement. These stipulate three principles:

- ❑ Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- ❑ Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- ❑ Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher [1].

This last principle – which is often called the principle of 'no detriment' – implies that the displaced people should in a verifiable sense be no worse off. In economics, this is consistent with the idea of a Pareto improvement (after Vilfredo Pareto, 1848-1923), which is defined by: at least one individual preferring the new situation to the old, and others being indifferent to the change.

What Role for Compensation?

As paragraph (b) above suggests, experience has shown that money compensation payments to individual citizens are ineffective when used alone as a means to achieve the Bank's aims [see Cernea (1999) ^{[iii[3]]} and World Bank (1996) ^{[iv[4]]} for evidence on the Bank's experience]. Instead, the Bank's advice is that compensation payments should be a part of a wider, co-ordinated package of development assistance. It is not the purpose of this Note to describe how such a package should be developed, or indeed how the package as a whole should be evaluated. Those questions go some way beyond the scope of this Toolkit. However, they are addressed in The World Bank's publications on resettlement – notably in the Bank's *Handbook for Preparing a Resettlement Action Plan* ^{[v[5]]}. Further information can also be found at the Bank's 'Involuntary Resettlement' homepage ^{[vi[6]]} [[Link](#)].

The question addressed in this Note is the narrower one: how should money compensation payments be evaluated? Section [2](#) begins by asking what costs the payments are intended to compensate for, and on what basis the value of compensation should be estimated. Section [3](#) continues to consider how institutional arrangements affect the way compensation payments are designed and channelled in practice. In Section [4](#) turns to the benefits of resettlement compensation and in Section [5](#) brings these strands together to consider how compensation payments should be evaluated within the economic evaluation of World Bank transport projects.

COMPENSATION FOR COSTS OF RESETTLEMENT

In this section we will address two main questions: what are compensation payments intended to compensate for, and how should they be estimated?

What Are Compensation Payments Intended to Compensate for?

We begin by identifying the potential monetary costs incurred by displaced people when involuntary resettlement occurs, assuming that the displaced people take action (with or without external assistance) to retain their standard of living. The key items that have been identified by the Bank's staff – through experience of past resettlement work and through research [for example, see the reviews of recent experience in [3, 4]] – can be divided into two main categories:

- ❑ firstly, the costs of replacing the wide range of assets that are lost or made unusable; and
- ❑ secondly, the temporary, transitional costs involved.

The case of the Guangzhou Inner Ring Road Project illustrates the types of items which can arise in each category (see [Box 1](#)).

Box 1. Compensation Cost Items – Guangzhou Inner Ring Road Project

The project involved constructing an orbital road, 26.7km in length, just outside the city centre of Guangzhou, China. The floor area of buildings demolished was 440,000m² and the number of Project Affected Persons (PAPs) was 32,000, of whom around 10,000 were actually relocated.

In total, the number of households resettled was 1,860, plus a further 1,000 shops, businesses, institutions and public facilities.

The table below presents estimates of the compensation payments made for Phases I and II, which made up a 9.0km section of the road (payments have been converted to US\$).

Payments for Replacement Assets	Costs for Phases I+II (9.0km), US\$
Resettlement housing	53,477,000
Replacement shops	15,382,000
Replacement public and cultural facilities	1,026,000
Replacement of pipes and cables	13,672,000
Replacement of traffic facilities	138,000
Replacement of civil air defence facilities	944,000
Replacement of trees and lawns	39,000
Transitional Payments	
Compensation for loss of production (shops)	13,750,000
Payment for temporary auxiliary facilities	328,000
Moving fees	275,000
Payment for telephone transfer	227,000
Payment for cable TV transfer	65,000
Reward for moving ahead of time	180,000
Payments for relocation management	97,000
Payments for litigation/arbitration	78,000
Other administration payments for relocation	71,000

Source: [8]. Foreign Exchange rate for 1998 of 0.121 US\$/Yuan has been applied.

Source Guangzhou Road Expansion and Engineering Office (1998) [vii^[7]]

In the first paragraph of this Note, a number of 'risks from resettlement' were listed. The first of these was 'breakdown of economic production leading to loss of income'. **Income restoration of all the affected persons is a key objective of the Bank's policy.** Note that in the Guangzhou case there was no direct compensation of households for loss of income. Instead, the Plan sought to ensure that there would be no breakdown in economic production. There was transitional compensation for businesses that were expected to suffer a loss of production, however, these payments were short-term – lasting only up to one year. The approach was to focus on replacing productive assets, so that the re-growth in the economy, following the resettlement process, is on a robust foundation and is sustainable in the longer term. An explicit principle of the Resettlement Action Plan was that "The development resettlement will be planned to create full employment" [Z], and this was achieved through a range of measures.

The biggest item of investment in assets was the US\$ 53.5 million expenditure on housing in Phases I and II (and around US\$ 175 million in the project as a whole). This reflects the fundamental role of housing in standard of living. In total, the plan offers an increase in living space for the resettled households. However, households were offered some choice in their new housing, and where they chose smaller units, money compensation was offered to ensure 'no detriment'. The plan also involved many residents who previously lived in sub-standard accommodation moving into proper concrete-framed buildings.

The assets replaced were not limited to housing and business premises, but also included public and cultural facilities (schools, clinics and meeting places for example), basic infrastructure such as electricity and water networks, local traffic access, 'civil air defence' and landscape.

In addition to the substantial transitional compensation to businesses, there were a range of other, less substantial, transitional payments to cover the costs of moving house (or relocating a business), and the associated administration. These are listed in the lower half of the table in [Box 1](#).

Whether these compensation actions were enough to maintain the standard of living of the Project Affected Persons, or whether it increased or reduced overall, is a wider question, to which we return in Section 4. However, the value of each compensation item was estimated in line with the World Bank's policies, which we now go on to consider.

How Should Compensation Payments Be Estimated?

In appraising a project, it is necessary not only to consider the scope of compensation, but also to answer the question: what value of compensation is appropriate for each of these items?

Valuation of Assets

The key principle here is **valuation at replacement cost**.
Replacement cost of an asset is the sum of money required to replace the asset in its existing condition.

Sometimes, there may be a supply of replacement assets already available in the locality. For example, there may be available land which can be turned to use for housing, or agriculture, or other uses that will be displaced by the project. If this is the case, then the relevant value of the land lost is the purchase price of the replacement land plus the cost of raising its quality and condition to the same level as the land lost. Note that with replacement land, there is the potential for landowners to seek excess profits by raising the price once they are aware of the planned transport project. Many countries have procedures to limit compensation for such land to the market price of comparable land elsewhere.

Replacement assets are not always so readily available. For example, there is rarely a supply of equivalent housing, conveniently vacant. In most of the Borrower countries, therefore, the replacement cost of housing will usually be equal to the cost of constructing/purchasing equivalent new housing, without making any deductions for depreciation [6].

Since the legal frameworks of many countries do not provide for compensation at replacement cost, the Bank accepts a combination of compensation permissible under the local legal regimes, with other allowances (with variable terminology) so that **the total is equal to the replacement cost of affected assets** [6].

Sometimes, replacement assets may be of better quality than the assets lost. This was the case in the Guangzhou Inner Ring Road project, where replacement housing was all concrete-framed, to confirm to legal standards for new housing in that area. Improvements such as this, which benefit the citizens, are consistent with the Bank's policy of 'no detriment'. If the improvements are substantial, then it may be appropriate to package them as a freestanding (but 'cross-conditional') development project, to run in parallel with the transport project [see 8, paragraph 26]. This helps to ensure that funding for housing improvements, for example, is sourced from housing budgets, whilst funding for resettlement in line with the principle of 'no detriment' is sourced from transport budgets. However, setting up a freestanding housing project would be costly in terms of administration: as in Guangzhou, it will often be more efficient to acknowledge that the Resettlement Action Plan has some external benefits in terms of housing quality, and to seek counterpart funding for these. In Guangzhou, counterpart funding came from Guangzhou Urban and Rural Construction Commission under the Municipal Government. In appraisal, it is good practice to record any external benefits, such as housing quality improvements, alongside the cost-benefit results [7]. The report should describe the improvements offered and should quantify the number of properties and persons affected.

Another approach would be to attempt to estimate the housing quality benefits in monetary terms, based on willingness-to-pay for different qualities of housing. This would certainly provide additional evidence to support the case for housing improvement. However, it would not alter the fact that substantial housing improvements should be met from housing budgets, whilst within the Bank's current policies, a certain amount of external benefit to residents from transport projects in terms of housing quality, and the associated costs, must be accepted.

In addition to housing and land, other assets which should be valued at replacement cost include:

- ❑ business premises;
- ❑ public and cultural facilities including schools, healthcare facilities, meeting places, etc;
- ❑ basic infrastructure (eg. water, electricity, access and rights of way);
- ❑ natural resources (eg. forests, fisheries, grazing).

The purpose of valuing these assets at replacement cost is to ensure that the **"incomes, the standards of living and the productivity levels of the affected persons"** are restored at least to pre-project levels [6].

Mechanisms such as competitive tendering should be used, where possible, to ensure that estimates of replacement cost are based on the lowest achievable prices. In Section 3, we go on to consider the different institutions through which compensation may be channelled and some different ways in which the compensation may be used in practice.

VALUATION OF TRANSITIONAL COMPENSATION

Transitional compensation to households, businesses and other organisations should be designed to preserve incomes and standards of living in the short term – up to one year in the Guangzhou case. The principle of 'no detriment' implies that transitional payments should:

- ❑ cover, but should not overcompensate for, any transitional loss of income – for example, the loss of sales revenue whilst shops were relocating in Guangzhou;
- ❑ plus, they should cover any exceptional costs necessary to maintain the standard of living, such as the telephone transfer fees and removal fees in Guangzhou which households, businesses and other organisations had to pay.

Estimating the transitional loss of income and exceptional costs will require some research input. For example, in Guangzhou all the compensation estimates were made by the Guangzhou Road Expansion and Engineering Office based on research commissioned from the Research Center for Market Economy and Population Development, at Zhongshan University. Their research found, for example, that the cost of household removals would be approximately 450 Yuan for a 1-4 person household or 600 Yuan for a household of 5 or more, so this amount was included in the residents' compensation payment. Meanwhile, removal costs for businesses and for public and cultural organisations were found to be 15 Yuan per m² of floor space. Again, this allowance was included in the schedule of compensation payments.

It is worth emphasising, finally, that these transitional payments are made only in the short term. In the medium- to long-term, the replacement of assets should be designed to ensure that production and community life are sustainable without ongoing compensation.

INSTITUTIONAL ARRANGEMENTS AND RESETTLEMENT COMPENSATION IN PRACTICE

A number of factors affect the implementation of these principles for compensation payments. In this section, we consider:

- ❑ the issue of non-registered people and informal land tenure arrangements;
- ❑ the treatment of vulnerable groups;
- ❑ channelling of compensation through public and private institutions;

- ❑ limits on the World Bank's ability to fund resettlement; and
- ❑ the use of compensation payments in practice.

Non-Registered People and Informal Land Tenure Arrangements

A serious issue which arises in resettlement planning is the inconsistency which exists in the legal status of residents, in relation to their homes and their land. The following are examples from a wide range of possible arrangements:

- ❑ legal owner – resident or not;
- ❑ property holder without legal title:
 - eg. squatters and encroachers [6];
- ❑ renter – from legal or non-legal holder;
- ❑ common property or non-title usufruct systems governed by locally recognized land allocation mechanisms [viii[8]].

Whichever arrangements are in place: “The objective is to treat customary and formal rights as equally as possible in devising compensation rules and procedures. The plan should address the issues raised by the different tenure systems found in a project area, including (a) the compensation eligibility of land-dependent populations; (b) the valuation procedures applicable to different tenure types; and (c) the grievance procedures available for disputes over land acquisition” [7].

In the case of legal owner status, it is common in practice to offer compensation for lost assets at full replacement cost [3, 7, ix[9]].

The term ‘squatters’ is typically used for those occupying residential/commercial property without legal title, whilst ‘encroachers’ are those occupying land for agriculture without legal title. “The Bank’s resettlement policy states that the affected persons cannot be denied compensation based on the lack of legal title. Bank projects therefore need to make provision for helping squatters and encroachers achieve the objectives of the Bank’s resettlement policy” [6]. In practice, people in this position are not typically granted the same compensation terms as legal owners. In the Vietnam First Highway Rehabilitation project [9], for example, compensation for families living in the right-of-way without the necessary permission was set at 60 percent of replacement cost, and secure land tenure was granted in lieu of payment of the remaining 40 percent.

Renters are typically offered less in compensation than owners. In a range of urban resettlement initiatives in Brazil [3, p158], for example, a typical offer was financial assistance equivalent to 6-12 months’ rent, to help households meet the cost of finding alternative accommodation and making the necessary arrangements to move.

Common property or locally-based systems of land rights require particularly careful treatment. In the Guangzhou example, compensation was paid for collectively-owned land acquired for the project (eg. municipal vegetable gardens), subject to a requirement that the compensation must be used to develop these collective economic activities on alternative sites. In other cases, there may be no national or legal recognition for collective ownership systems, in which case the development of appropriate rights and protections for those living under systems of non-legal rights is an important part of the process [1, 2, 8].

In any of these cases, the principle of ‘no detriment’ should be used to inform the minimum standard of compensation required for each household or economic unit. However, steps will also need to be taken to ensure that the compensation system is not exploited. In particular, it is good practice to:

- ❑ publicize among people to be displaced the laws and regulations on valuation and compensation;
- ❑ establish criteria for determining the resettlement eligibility of affected households, e.g., households that have only partially lost their assets but are no longer economically viable should be entitled to full resettlement; and

- develop and implement mechanisms at the earliest opportunity, to prevent an influx of nonresidents entering to take advantage of resettlement benefits, by an early census of the affected populations entitled to compensation/rehabilitation.

The Treatment of Vulnerable Groups

Because of their special vulnerability to the risks of resettlement, groups including indigenous people, the landless and semi-landless, households headed by females where their legal rights are different, the elderly living alone, single-parent households, the disabled, chronically ill, and very poor citizens, should be considered for special treatment, in order to protect them from the impact of exceptional cost items [1, 7].

In Guangzhou, the policy adopted was both to prioritise resettlement for these groups, and to give some extra compensation – in the form of, for example, higher money payments and a guarantee of a housing unit, whose size was greater than the existing units of many of the poorest resettlers [7].

Channelling of Compensation through Public and Private Institutions

Compensation payments are not always paid directly to the households affected. For example, in the China Henan Provincial Highway Project [3, p249] land compensation and resettlement payments were paid to the county, township, and village governments of the host communities, which used them collectively for area development. It was not practical to provide 'vacant' land in the right location to resettlers: instead there was a process of land redistribution from existing residents to resettlers, so the costs of resettlement were shared among the community. In return, the benefits provided by the compensation payments, including replacement assets and transitional payments, were shared as well.

When compensation for households' loss of assets and transitional costs is channelled through public institutions, it is important that the principles of valuation for compensation payments are maintained. Compensation for the loss of assets should be based as always on replacement costs. From each household's point of view, the principle of 'no detriment' should be upheld – in relation to income and living standards. The processes contained in Operational Policy 4.12 and Bank Procedures 4.12 [1, 2] reflect these principles, but at the same time are flexible enough to allow a range of different approaches to resettlement on the ground.

Transitional compensation for loss of income is sometimes channelled through businesses. In the case of Guangzhou Inner Ring Road described above, payments were based on lost production by shops and enterprises during the period of closure and relocation, and were paid to the shops and enterprises in question. If this approach is adopted, it is essential that the legal framework and cultural practices are such that households and individuals will not suffer loss of income. Compensation must either be passed on by the business units to employees, or the income protection element must be paid through other channels to households – eg. through public labour or welfare offices.

Limits on the World Bank's Ability to Fund Resettlement

World Bank resources designated for resettlement have increased, compared with the situation 5 or 10 years ago [3]. However, there remain some limitations on types of cost which can be funded due to legal restrictions on the use of the Bank's resources: for example, land acquisition, salaries of government staff, compensation for goods other than land, or already-built housing units, cannot be funded by the Bank [3, p174]. Given these restrictions, in the Brazilian projects cited in Cernea (1999) [3], the World Bank did not participate in financing resettlement. The Guangzhou resettlement programme was financed by the Guangzhou Urban and Rural Construction Commission under the Municipal Government [7]. Nevertheless, the Resettlement Action Plan is a part of the package which releases World Bank funding for transport project itself, and consistency with Operational Policy and Bank Procedures 4.12 is essential [1, 2].

The Use of Compensation Payments in Practice

Typically, compensation is used to replace the assets like-for-like. Sometimes, though, the assets which are needed for the future may be different from the existing assets. Then, by agreement between the planning authority and the affected persons, it may be possible to settle on an alternative development plan. Provided that at least the same income, standard of living and productivity can be achieved, and provided the alternative assets are culturally acceptable and meet the requirements of the affected persons, then the compensation may be used to purchase a different portfolio of assets [8, paragraph 15]. The key requirement if this approach is followed, is that the affected persons are still actively involved in developing the new plan and consent to it. Policies and procedures on participation are set out in the Operational Policy and Bank Procedures [1, 2].

Other forms of flexibility can be offered in the way in which compensation is delivered. For example, in some Brazilian urban projects [3], resettlers (with legal title) were offered alternatives of: (i) monetary compensation; (ii) exchange for a developed lot in a resettlement location, without payment; or (iii) home in a state housing company development within the city. This gave the resettler some flexibility in selecting an alternative more suited to their needs, whilst also offering a guarantee of accommodation and keeping the amount of compensation pegged to the replacement cost of the owned assets. Transitional payments would usually be offered to cover transitional costs, irrespective of the method by which assets are replaced.

BENEFITS OF RESETTLEMENT COMPENSATION

The principal aim of resettlement compensation is to assist the Project Affected Persons in avoiding the risks associated with involuntary resettlement, which were set out in Section 1. If the objective of 'no detriment' is achieved at the level of the household and the individual, in terms of income and standard of living, then on this test the project is a success from the viewpoint of resettled citizens.

It is **not** standard practice to attempt to measure the consequences of failing to provide resettlement compensation. This would potentially be a very serious situation for some of the affected persons. We are not, therefore, in a position to estimate the benefits of resettlement compensation in monetary terms, because the do-nothing scenario is not defined.

We did, however, mention in Section 2 the situation where resettlement compensation leads to an improvement in certain aspects of living standards. For example, if the resettlement programme leads to improved housing, better sanitation, or better community facilities, how should these be treated in appraisal? In Section 2 we observed that such improvements should in general be – and are often in practice – funded from budgets allocated to those purposes – housing, sanitation, etc. The funding of involuntary resettlement from transport budgets is intended to mitigate the possible risks, protect incomes and the standard of living, and ensure 'no detriment'.

Therefore when appraising a resettlement programme which offers significant improvements in living standards, or is funded by non-transport organisations, it will be appropriate to conduct an appraisal in line with good practice in the relevant sector. This means that expenditure on housing improvements, for example, should be evaluated in line with other housing improvement projects. The Guangzhou case illustrates how this can be done. One indicator of housing quality is interior space: the Guangzhou resettlement action plan contrasts the original floor area of housing (75,000 m² in total in Phases I&II) with the floor area of the replacement housing for the same citizens (138,113 m² in Phases I&II). Another factor in quality is the type of construction – the Guangzhou report informs us that all new units will be concrete-framed and meet current building standards (an improvement for many citizens). On the cost side, the cost of the replacement housing is 442 million Yuan in Phases I&II. This makes possible an assessment on cost-effectiveness grounds, and a comparison with other uses of housing budgets yielding different results. Guidance on developing Resettlement Action Plans is available in the *Handbook for Preparing a Resettlement Action Plan* (World Bank, 2002) [5].

CONCLUSIONS – APPRAISAL OF PROJECTS

The key requirements for the appraisal of any transport project are that:

- ❑ A **Resettlement Action Plan** should be developed and implemented, in order to ensure that the principle of ‘no detriment’ is met for all Project Affected Persons [**Error! Bookmark not defined., Error! Bookmark not defined.**];
- ❑ Involuntary resettlement is a substantial development action in its own right and will require significant resources. These resources **should be budgeted for as part of the costs of the transport project**. In the appraisal, all costs – including resettlement costs – must be included in the cost-benefit analysis for the transport project. The resettlement costs form a component of the investment costs (see the *Framework* [Link]). [Table 1](#) contains examples of resettlement compensation costs;
- ❑ The evidence on sensitivity of project performance to resettlement costs across a wide range of projects is inconclusive at present [3], however as [Table 1](#) illustrates, these costs can potentially have a substantial impact on project NPV and IRR, and therefore can potentially influence the economic acceptability and performance of a project;
- ❑ Resettlement costs represent Paretian compensation. This implies that no external benefits or disbenefits are incurred through the resettlement process;
- ❑ Should the resettlement process result in the replacement assets being of better quality than the assets lost - as in the Guangzhou example [above](#) - it is desirable to **describe and quantify where possible** any such external benefits. However, it is most unlikely that these will be convertible to monetary terms, given the current state-of-the-art. They should be reported alongside the cost-benefit results within the *Framework* [Link]. Sources of evidence on which the external benefits are based should be stated. Should such external benefits be substantial counter-part funding from appropriate budgets (such as housing) may be required.

Table 1. Examples of Compensation Costs

Case	Compensation per family, \$US	Compensation as % of project cost
Brazilian urban projects [3]	Average: \$10,200 (range \$1,700-\$22,000)	0.2% – 27.0%
Brazil Integrated Urban Transport Project [3]	\$6,300-7,200	6.0%
Guangzhou Inner Ring Road [7]	Average: \$32,000	Not published in [7]

FURTHER READING

[ⁱ1] World Bank (2001), *Operational Manual*, Volume II, Operational Policy 4.12 ‘Involuntary Resettlement’. The World Bank: Washington DC [Also available online at <http://wbIn0018.worldbank.org/Institutional/Manuals/OpManual.nsf>].

[ⁱⁱ2] World Bank (2001), *Operational Manual*. Volume II, Bank Procedures 4.12 ‘Involuntary Resettlement’. The World Bank: Washington DC [Also available online at <http://wbIn0018.worldbank.org/Institutional/Manuals/OpManual.nsf>].

[ⁱⁱⁱ3] Cernea MM (1999), *The Economics of Involuntary Resettlement: Questions and Challenges*. The World Bank: Washington DC. [Also available online at http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_99040105542381]

[^{iv}[4]] World Bank (1996), *Resettlement and Development: The Bankwide Review of Projects Involving Involuntary Resettlement*, Environment Department Papers, Paper No. 032. The World Bank: Washington DC.

[^v[5]] World Bank (2002), *Handbook for Preparing a Resettlement Action Plan*. The World Bank: Washington DC. [Also available online at http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_02090404022144]

[^{vi}[6]] World Bank Resettlement Homepage:
<http://lnweb18.worldbank.org/essd/essd.nsf/Resettlement/home>

[^{vii}[7]] Guangzhou Road Expansion and Engineering Office (1998), *Guangzhou City Center Transport Project – Inner Ring Road Project - Resettlement Action Plan*. [Available online at http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_00081005471080]

[^{viii}[8]] World Bank (1990), *Operational Manual*, Operational Directive OD 4.30, June 1 1990 'Involuntary Resettlement'. The World Bank: Washington DC. [Also available online at <http://wbIn0018.worldbank.org/Institutional/Manuals/OpManual.nsf>]

[^{ix}[9]] Rapp K and Agrawal P (1999), *Involuntary resettlement in the Vietnam First Highway Rehabilitation Project*, Social Development Note No. 49. Social Development Publications, The World Bank: Washington, DC.