

WP 2002-33
October 2002



Working Paper

Department of Applied Economics and Management
Cornell University, Ithaca, New York 14853-7801 USA

AN EXCHANGE ON THE COMPENSATION PRINCIPLE IN RESETTLEMENT

Michael Cernea and Ravi Kanbur

It is the Policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will

An Exchange on the Compensation Principle in Resettlement

by

Michael Cernea and Ravi Kanbur

October, 2002

This compendium brings together two papers on cost-benefit analysis and the compensation principle in the context of resettlement. Ravi Kanbur's paper, "Development Economics and The Compensation Principle," presents an account of economic thinking, while Michael Cernea's paper, "For a New Economics of Resettlement: A Sociological Critique of the Compensation Principle," presents an analysis from the perspective of a sociologist. Earlier versions of the papers were presented at the Cornell conference on Displacement, November 2001, and the conference proceedings will be published in the *International Social Science Journal* in 2003. The authors hope that bringing these two papers together in this working paper format will serve to advance the dialogue on the important issue of resettlement and compensation in development projects.

Development Economics and the Compensation Principle

Ravi Kanbur

Abstract

How does development economics address the issue of gains and losses from the displacement that inevitably accompanies many development processes? This paper argues that economists have struggled mightily between the core criterion of a “Pareto improvement”, which vests individuals with infinite rights in their current standard of living, and its deeply conservative implications—both that it would prevent redistribution away from the rich, and that it would stop most projects from ever taking place. Where they have got to conceptually is a compromise, through using distributionally sensitive weights to evaluate the gains and losses of a project. In practice, however, systematic use of such weights in project appraisal or cost-benefit analysis is rare. Apart from advocating such use, which is true to the spirit of the conceptual position reached in economics, the paper argues that specific compensation mechanisms and generalised safety nets will reduce tensions between protecting the vulnerable and supporting projects that produce aggregate net benefits—including benefits for the vulnerable themselves.

Biographical note

Ravi Kanbur is T. H. Lee Professor of World Affairs and Professor of Economics at Cornell University. He was educated at Cambridge and at Oxford, and has held academic appointments in several Universities in the US and in the UK. He has also held appointments at the World Bank, including as Chief Economist for Africa.

Email: sk145@cornell.edu

Development Economics and the Compensation Principle

Ravi Kanbur*

Introduction

Rare is the development project, policy or process that only creates winners. The displacement theme brings to centre stage the losers. One form or another of displacement is often part of the development footprint. Technological change displaces workers in traditional activities. Dams displace families from their homes and villages. Interaction with the outside world displaces, or at least threatens to displace, long established cultures. The companion papers in this volume bear eloquent testimony to the losses suffered, by those least able to bear them, in the name of development.

This paper is an examination of how economics and development economics as disciplines have come to their current position on how such losses should be evaluated. If there were only losses and no gains, the project, policy or process (henceforth, project) should not be advocated or implemented. If the losses were all suffered by the poor and vulnerable, and the gains all accrued to the rich and powerful, the argument for redress is very strong. However, if the gains and losses are more evenly spread across the socio-economic spectrum—for example if there are poor gainers as well as losers—the conceptual case for redress is more delicate. And there is the vexing question of whether the project should go ahead at all if, after having done the best that can be done in terms of redress, there are still significant losers even though there are gainers to match.

This question of whether to go ahead with a project which creates losers as well as gainers even after attempts at redress, often to those who have been displaced during the development process, has to be a central one in development analysis and policy. How do different disciplines address this question? In this paper I recount the history of how economics has struggled mightily within itself to arrive at a position. It is a position that is often critiqued by other disciplines, but is more subtle and arrived at with greater intellectual examination than commonly realised. In

highlighting the turmoil that economics went through historically to arrive at its present position, I also want implicitly to pose the question—how would other disciplines respond to the same challenge?

Economics and “Pareto improvements”

The benchmark concept in economics in discussions of gains and losses is named after Vilfredo Pareto. A “Pareto improvement” takes place when, compared to the *status quo ex ante*, at least one individual is made better off and *no individual is made worse off*, as a result of the project. So, at the core of economic thinking is the concept of protecting those who would lose from a project. If the Pareto improvement criterion were used, none of the projects, policies and processes discussed in the papers in this volume would be advocated at all.

Interestingly enough, the Pareto criterion was held by many economists to be *deeply conservative*, in two senses. First, it would prevent projects of redistribution from rich to the poor, since after such a project some individuals (namely, the rich), would be worse off.¹ Second, since projects where there were only direct winners would be rare, this was a recipe for policy paralysis—very little would be advocated or implemented if the criterion were to be followed strictly.

An approach that aggregated the gains of the gainers and the losses of the losers in some way was the answer to the second of the above problems. The first problem could then be handled through the *method of aggregation*—for example, by giving a much larger weight to the gains and losses of the poor than those of the rich. These twin features are present, for example, in the Benthamite Utilitarian tradition of adding up “utility” gains and losses to individuals as the result of a project, egalitarianism being introduced through the nature of the utility function—it being assumed that a dollar’s loss or gain meant more to a poor person than a rich one.

It should be clear, then, that there are two issues in departing from the Pareto criterion—the need to aggregate and the type of aggregation. We may differ on the second—some may be more

egalitarian than others—but the first is a fundamental issue that cannot be avoided. And it is on this that a great debate took place in economics in the 1930's and 1940's.

Steps to the compensation principle

The opening salvo was launched by Lionel Robbins who, in his immensely influential 1932 book *The Nature and Significance of Economic Science*, eschewed all interpersonal comparisons of gains and losses as “unscientific”. The economist, he felt, could use her skills to follow through and lay out the consequences of a project, and could present these to the policy maker. But the economist *qua* economist was not qualified to take the final step of making a recommendation on the basis of aggregating gains and losses—unless of course there were only gains, in which case the Pareto criterion could be invoked.

This position was countered by Roy Harrod² in the *Economic Journal* of 1938, and he took as an example the great nineteenth century debate in English Political Economy on the Corn Laws: “Consider the repeal of the Corn Laws. This tended to reduce the value of a specific factor of production—land. It can no doubt be shown that the gain to the community as a whole exceeded the loss to the landlord—but only if individuals are in some sense treated equal. Otherwise how can the loss to some—and that there was a loss can hardly be denied—be compared to the general gain? If the incomparability of utility to different individuals is strictly pressed, not only are the prescriptions of the welfare school ruled out, but all prescriptions whatever. The economist as adviser is stultified, and, unless his speculations be regarded of paramount aesthetic value, he had better be suppressed completely”.

In his response, Robbins (1938, pp 636) held his ground, charting the development of his own thinking in an interesting fashion: “My own attitude to problems of political action has always been one of what I call provisional utilitarianism...[W]hen I came to the study of economics, I had the strongest bias in favour of utilitarian analysis. The delicate balancing of gain and loss through intricate repercussions of policy...fascinated me; and I was powerfully attracted by the proposition...that recent developments in the theory of value could be invoked to demonstrate the desirability of the mitigation of inequality....But, as time went on, things occurred which

began to shake my belief...I am not clear how these doubts first suggested themselves; but I well remember how they were brought to a head by my reading somewhere—I think in the works of Sir Henry Maine—the story of how an Indian official had attempted to explain to a high caste Brahmin the sanctions of the Benthamite system. ‘But that,’ said the Brahmin, ‘cannot possibly be right. I am ten times as capable of happiness as that untouchable over there.’ I had no sympathy with the Brahmin. But I could not escape conviction that...the difference between us was not one which could be resolved by the same methods of demonstration as were available in other fields of social judgement”.

It was in the midst of this standoff between the need to aggregate with normative weights if the economist was to be relevant to policy, and the view that the economist *qua* economist had no standing to choose these weights, that Nicholas Kaldor (1939, p 550) introduced a notion which proved important in subsequent development of the field, including cost-benefit analysis, and he did this once again in the context of the repeal of the Corn Laws: “But it is always possible for the Government to ensure that the previous income-distribution should be maintained intact: by compensating the ‘landlords’ for any loss of income and by providing the funds for such compensation by an extra tax on those whose incomes have been augmented. In this way, everybody is left as well off as before...In all cases, therefore, where a certain policy leads to an increase...of aggregate real income, the economist’s case for the policy is quite unaffected by the question of the comparability of individual satisfactions; since in all such cases it is *possible* to make everybody better off than before, or at any rate to make some people better off without making anybody worse off. There is no need for the economist to prove—as indeed he never could prove—that as a result of the adoption of a certain measure nobody in the community is going to suffer”.

This is the famous but perhaps misnamed “compensation principle”—it talks not about actual compensations being paid, but rather that if they could be paid in principle so as to leave everyone better off, the project should go ahead. “Compensation in principle” might be a better label than “compensation principle”—the latter might suggest that as a matter of principle compensations should be paid, which is quite the opposite of what is intended. But I will stick with standard economics usage in what follows.

A love-hate relationship

Economists have a love-hate relationship with the compensation principle. They hate it because it makes them jump through logical hoops they would rather not jump through. If the compensation is actually paid, so that nobody is worse off and some people are still better off, then the Pareto criterion is satisfied and there is no need for the elaboration of the compensation principle. But if compensation is not paid then the compensation principle is logically equivalent to giving everybody equal weight and adding up gains and losses. Any deviation from this and there is no logical basis on which the principle can be used as a decision rule. And most economists would in principle wish to deviate in favour of egalitarian weights.

But what to do if compensation cannot be designed to be complete so as to leave the losers as well off as they were before? And what to do if no consensus can be reached on weights? Might this not lead to utter paralysis on the policy front? So, despite themselves, economists keep getting drawn towards the compensation principle. Some of these tensions are seen in a famous paper by Hotelling (1938, p265), couched in terms of whether a particular investment (e.g. a railway line) should go ahead: “A less conservative criterion...is that... if some distribution of burden is possible such that everyone concerned is better off than without the new investment, then there is a *prima facie* case for making that investment. This leaves aside the question of whether such a distribution is practicable. It may often be good social policy to undertake new enterprises even though some persons are put in a worse position than before, provided that the benefits to others are sufficiently great and widespread...To hold otherwise would be to take the side of the handweavers who tried to wreck the power looms that threatened their employment. But the rule must not be applied too harshly. Where losses involve serious hardship to individuals, there must be compensation, or at least relief to cover subsistence... Where there are many improvements, the law of averages may be trusted to equalise the benefits to some extent, but never completely. It will always be necessary to provide for those individuals upon whom progress inflicts special hardship; if it were not possible to do this, we should have to reconcile ourselves to greater delays in the progress of industrial efficiency”.

Throughout the 1930's, 1940's and 1950's this inner turmoil of economists is seen again and again. Here is Henderson (1947, p230), worrying about the financing of bridge building—whether to do it through general taxation or through tolls: “The other objection to making use of general taxation is that those who pay the taxes may not reap the benefit. To this, the answer, which runs through all economic reasoning since Adam Smith, is that if every change is made which benefits some more than it harms others, then in the end everyone will benefit more than he loses. This is likely to be so, providing the changes are numerous and the benefits and losses distributed at random among the population. But it need not be so...There is, therefore, a presumption in favour of some form of financing which ensures that the people who gain from the bridge pay the whole cost as against making the deficit a charge on the national exchequer”.

And the concerns about the compensation principle continue to the present day. Here is the discussion in a standard textbook on public economics, by Stiglitz (1999, p 114): “What happens if the total willingness to pay exceeds the total costs, but the costs borne by some individuals exceed their willingness to pay? Should the project be undertaken? The compensation principle says that if the aggregate willingness to pay exceeds the costs, the project should be undertaken. Most economists criticise this principle, for it ignores distributional concerns. Only if the compensation is actually paid to those adversely affected can we be sure that the project is desirable, for then it is a Pareto improvement...If the aggregate net benefit...is positive, and if the poor are net beneficiaries and the rich are net losers, then the project increases both efficiency and equity and should be adopted. But often, matters are more complicated. For instance, the poor and the rich may be worse off, but middle-income individuals may be better off. How do we assess such a change?...We assign weights to the net gains of different groups to summarise the impacts in a single number...Because of the concern for equity, effects on higher-income groups are weighed less heavily”.

Stiglitz's argument sees us coming full circle to the Utilitarianism that Robbins (1932, 1938) rejected because it required interpersonal comparisons and weights. Caught between policy paralysis and the illogic of the compensation principle, and unconvinced by the “law of large numbers” argument that with multiple projects distributional effects will tend to cancel out, Stiglitz's way out is the way most economists would resort to, at least in theory. In other words,

they would advocate a cost-benefit analysis using weighted sums of gains and losses according to an egalitarian scale of weights. But this way of doing things does not seem to have panned out in practice, especially in the context of development projects.

Dams, displacement and development

Dams and displacement are often seen as the archetypal indictment of cost-benefit analysis (CBA) and all that it has wrought. Michael Cernea's (2000, p 47) critique is one among many: "CBA is utterly insufficient because it is only a macroeconomic tool that does not explore the distribution of either costs or benefits among project stakeholders....The cost-benefit methodology justifies project investments by determining that the aggregate of a project's benefits outweighs the sum of a project's costs by an acceptable margin".

Before discussing this statement further, it is as well to put on record a view on dams and displacement that does not necessarily see the issue as a failure of the distributional dimensions of cost-benefit analysis, in other words, of using inappropriate distributional weights on a project which however did have positive social benefits. Rather, the view is that big dams are projects which have negative social benefits, but go through because they give positive benefits to selected powerful groups. Arundhati Roy (1999, pp3-4) makes this argument in characteristically pointed fashion: "Big Dams started well, but have ended badly. There was a time when everybody loved them...Not any longer...The fact that they do more harm than good is no longer just conjecture... They lay the earth to waste. They cause floods, water-logging, salinity, they spread disease...The International Dam Industry is worth 20 billion dollars a year. If you follow the trails of big dams the world over, wherever you go...you'll rub up against the same story, encounter the same actors: the Iron Triangle (dam-jargon for the nexus between politicians, bureaucrats and dam construction companies), the racketeers who call themselves International Environmental Consultants (who are directly employed by or subsidiaries of dam-builders), and, more often than not, the friendly neighbourhood World Bank...In 1994, U.K. consultants earned 2.5 billion dollars on overseas contracts. The second biggest sector of the market after Project Management was writing what are called EIAs (Environmental Impact Assessments). In the Development racket, the rules are pretty simple. If you get invited by a

Government to write an EIA for a big dam project and you point out a problem..., then you're history".

So, not much scope in the above argument for subtle or even radical reformulations of CBA to take into account its shortcomings. What Arundhati Roy is pointing to is a systemic failure in which CBA is by the by. Whatever needs to be shown formally will be shown formally, given the huge payouts involved, not least to those who are doing the CBA and other forms of analysis. Cernea's (2000, p12) vision seems altogether more benign:

"Development will continue, however, to require changes in land use and water use and thus make various degrees of population relocation at times unavoidable. Yet, this does not mean that the inequitable distribution of development's gains and pains is itself inevitable, or ethically justified...It may not be feasible to prevent every single adverse effect. But it is certainly possible to put in place sets of procedures, backed up by financial resources, that would increase equity in bearing the burden of loss and in the distribution of benefits".

It should be clear that this benign vision is not very far from where I argued economic analysis has arrived after a long journey over the past hundred years. At least conceptually, most economists would accept the vision of a distribution sensitive CBA. Yet Cernea's (2000) critique above, that CBA in practice does this rarely, is clearly valid.³ What went wrong?

An intriguing account of the evolution of such "social" cost-benefit analysis from the 1960's onwards, especially as applied to development projects, is provided by Little and Mirrlees (1990, p 359): "In the late 1960s there was considerable development of methods for applying social cost-benefit analysis to investment in developing countries. In the 1970s, these methods began to be applied...A battle raged in the World Bank during the 1970s about whether social prices should be used. Formally the 'social price brigade' won, in that guidelines on the use of distributional weights were actually incorporated in the Operational Manual in 1980. In practice, we believe, they were hardly ever used except in an experimental manner in a few cases...Social pricing, using distributional weights, has been abandoned...When the pressure is on to get money out, it is not surprising that demands for more complex analysis are unwelcome. Worse

than this, project analysts would never get promoted if they were honestly compelled to report unfavorably on several projects”.

The Little-Mirrlees (1990) paper refers to the situation in the 1970s and 1980s, but no doubt some of the same pressures remain.⁴ Sophisticated analysis is all very well, but may lose out to other pressures, even when they are not as malign as those highlighted by Roy (1999).

But there is one aspect of Cernea’s (2000) Impoverishment Risks and Reconstruction (IRR) framework that ties straight into the 1930s and 1940s debate in economics. In that debate there was a strong feeling among some protagonists that designing elaborate compensation mechanisms as part of the project, while theoretically desirable since it got one closer to the Pareto improvement criterion, might not be practicable, and might be too costly—that doing this might actually reduce the overall aggregate benefits of the project. It was for this reason that there was tendency to lay great store by the “law of large numbers”—that over a large number of projects the distributional effects would cancel out, leaving everyone better off, if every time the choice was made on the basis of aggregate benefits. As was recognised in the debate, this position could not be sustained logically if projects were large or if distributions of gains and losses were not distributed statistically randomly in the population. These conditions are clearly not satisfied in the case of big dams, and in terms of its own logic economic analysis has to support something like the Cernea (2000) methodology for first of all delineating the distribution of costs and benefits, and then designing mechanisms for compensation. But are there complementary mechanisms that could bolster the Cernea (2000) approach?

Safety nets to the fore

There is no question that in terms of its own history of debate and dissent on the evaluation of projects, economic analysis should embrace specific compensation mechanisms for every project that is being considered. This is not only because of the ethical imperative, and the illogicality of the compensation principle, but also because of political economy considerations—without compensation to those who are displaced and other losers, the project may get delayed or not go ahead at all, thereby foregoing an increase in aggregate benefits.⁵

But there remains the question of the practicality of designing a specifically tailored compensation mechanism for every possible project, policy or process. This is where automatic redistribution mechanisms and safety nets come to the fore to complement project specific compensation. Imagine a world in which a system of safety nets and redistributive instruments ensured, automatically, that no individual or family became destitute, for any reason. Then, *a fortiori*, such a mechanism would prevent destitution as the result of a project on which compensation was not paid. Similarly, consider automatic redistribution mechanisms that prevented inequality from getting “too high”. Then there would, in principle, be no reason to have specific compensation mechanisms to ensure equitable distribution of the gains and losses from a given project.

Safety nets in developing countries got a bad reputation in the 1960s and 1970s, partly because what was actually implemented in the name of safety nets (for example, overly generous pension schemes for the urban professional elite) was in fact the opposite of what is intended by the term—in many cases, the systems introduced were highly regressive in their impact. There was also a tendency to introduce cumbersome “one size fits all” mechanisms, as opposed to a system of interventions tailored to specific circumstances of different categories of people—small farmers, rural landless, urban informal sector etc. What is needed, however, is a vision of an interlocking set of mechanisms which provide security against income shortfalls for whatever reasons, the individual component mechanisms designed appropriately for different contingencies. It is this vision that should guide us in the future, rather than the failed attempts of thirty years ago and the nihilism to which that failure gave rise.⁶

Of course, a perfect safety net or perfectly automatic redistribution is not practicable. But then neither is perfect project specific compensation. Rather, it is hoped that the two together come closer to achieving the objective of implementing projects that increase aggregate benefits and do so equitably. In fact, the stronger the system of safety nets, the less the need for project specific compensation to be elaborate and complete. To the extent that such elaborate project-specific designs are thought to be overly expensive, automatic safety nets (although they have their own expenses) may reduce the need for them and therefore increase the acceptance of more

projects with aggregate net benefits. A joint theory of project-specific compensation and generalised automatic safety nets now awaits development.

An inescapable dilemma?

Consider the relationship between the distributionally sensitive approach to CBA advocated by Stiglitz (1999), and the IRR approach of Cernea (2000). Without the compensations envisaged in the Cernea (2000) approach, use of distributionally sensitive weights *a la* Stiglitz might well (we would hope) reject the project as producing negative social benefit. But suppose now that, despite its best efforts, the Cernea method still leaves some poor people worse off than they would have been before. The distributionally sensitive weights would pick this up but, unless these weights gave an infinite weight to the losses suffered by even a single poor person, the project may well pass the Cernea (2000) and the Stiglitz (1999) criteria. But some poor people will have been made worse off. What to do in this case, which is likely to be the case in almost any project of significant size, despite all possible efforts to redesign and compensate?

This is an inescapable dilemma, which of course is the dilemma economists struggled with in the 1930s and 1940s. It doesn't go away just because there is some compensation, or even elaborate compensation. It is present whenever compensation is not perfect, in other words, when the Pareto improvement criterion is not met. It is not enough to modify the Pareto criterion to allow the rich to be made worse off, because the problem will arise whenever a poor person is unavoidably made worse off. To stop the project in this case means that those poor who would have been made better off will now stay as poor as they were. This is the other face of the inescapable dilemma—development projects sometimes pit not the rich against the poor, but one group of poor against another group of poor.

I have recorded the unsuccessful attempts of economists to square these circles, and I have reported the uneasy compromises that have been reached conceptually, as well as the entirely unsatisfactory application of even that conceptual position in practice. But what do other disciplines have to say on this dilemma? Granted that development projects create winners and losers. Granted that the simple criterion of aggregate net benefit is totally distributionally

insensitive. Granted that project-specific compensation and social safety nets are needed to protect the most vulnerable from having to pay the price of development projects, policies and processes. But suppose, as is bound to be the case, that after all of this there will still be some poor and vulnerable individuals somewhere who are made worse off. What would be the conceptual approach of disciplines other than economics to evaluating whether such projects should go ahead?

Conclusion

Physical and other forms of displacement are almost always the concomitants if not the consequences of the development process. Displacement losses can come in a variety of forms. There are those investors and secure members of society who realise less gain than they had expected as a result of development processes. Then there are the severe consequences for those individuals and communities who involuntarily move, leaving behind homes, networks, jobs, social capital and emotional ties to place.

A standard characterisation of economics, especially of CBA, is that it pays no attention whatsoever to these losses. This paper is an exploration of the history of economic thought and practice on how to balance the assessment of gains and losses that accrue as the result of displacement and of development processes more generally. Economists have struggled mightily with the core criterion of a Pareto improvement, which vests individuals with infinite rights in their current standard of living, and with its deeply conservative implications. The criterion of Pareto Improvement prevents redistribution away from the rich, and, if employed rigorously, would stop most projects from ever taking place.

I show that where economists have arrived conceptually is an uneasy compromise by using distributionally sensitive weights to evaluate the gains and losses of a project. In practice, however, systematic use of such weights in project appraisal or CBA is rare. Apart from advocating such use, in the spirit of the conceptual position reached in economics, I have argued that specific compensation mechanisms and generalised safety nets will reduce tensions between protecting the vulnerable and supporting projects that produce aggregate net benefits—including

for the vulnerable themselves. Following Cernea (2000), the argument here strongly supports the explicit taking into account of displacement in development projects, and systematic compensation as part of the project design. But generalised safety nets are also necessary to support those whom such project design fails to target.

Endnotes

1. As Amartya Sen once famously remarked, “A society can be Pareto Optimal and still be perfectly disgusting”.
2. This was done on the occasion of his Presidential Address to Section F of the British Association.
3. Indeed, it can be argued that Cernea’s (2000) critique of CBA is in pursuit of a more comprehensive protection and compensation for the displaced.
4. The literature on what they call “social” cost-benefit analysis, with explicit use of distributional weights, includes their own Little and Mirrlees (1969) and UNIDO (1972). For the tussles between different ways of doing even such distributionally sensitive cost-benefit analysis, see Sen (1972). An argument for treating projects and policies in a unified framework is developed in Kanbur (1990). For another account of the theory and practice of CBA in development projects, see Squire (1989).
5. For a discussion of the interlinkages between unequal distribution of gains and the prospects for economic growth itself, see Kanbur and Lustig (2000).
6. Such a vision is developed in the “Security” section of the World Bank’s (2000) World Development Report for 2000/2001.

References

- CERNEA, M. M. 2000. "Risks, safeguards, and reconstruction: a model for population displacement and resettlement", in M. M. Cernea and C. McDowell (eds.), *Risks and Reconstruction: Experiences of Resettlers and Refugees*, Washington, DC: The World Bank.
- COWARD, E. W. 2001. "Making and unmaking property in the Taos valleys: processes of displacement, impoverishment and development in the southern Rocky Mountains", paper presented to the workshop "Moving Targets: Displacement, Impoverishment and Development", Cornell University, Nov. 9-10.
- HARROD, R. F. 1938. "Scope and method of economics", *The Economic Journal*, 48(191), 383-412.
- HENDERSON, A. 1947. "The pricing of public utility undertakings", *Manchester School of Economics and Social Studies*, 15, 223-250.
- HOTELLING, H. 1938. "The general welfare in relation to problems of taxation and of railway and utility rates", *Econometrica*, 6, 242-269.
- KALDOR, N. 1939. "Welfare propositions of economics and interpersonal comparisons of utility", *The Economic Journal*, 49(195), 549-552.
- KANBUR, R. 1990. "Projects versus policy reform", in S. Fischer, D. de Tray and S. Shah (eds.), *Proceedings of the World Bank Annual Conference on Development Economics, 1990*, Washington, DC: The World Bank.
- KANBUR, R. and LUSTIG, N. 2000. "Why is inequality back on the agenda?", in B. Pleskovic and J. E. Stiglitz (eds.), *Annual Bank Conference on Development Economics, 1999*, Washington, DC: The World Bank.
- LITTLE, I. M. D. and MIRRLEES, J. A. 1969. *Manual of Industrial Project Analysis in Developing Countries*, vol. II, Paris: O.E.C.D.
- LITTLE, I. M. D. and MIRRLEES, J. A. 1990. *Project Appraisal and Planning Twenty Years On*, in S. Fischer, D. de Tray and S. Shah (eds.), *Proceedings of the World Bank Annual Conference on Development Economics, 1990*, Washington, DC: The World Bank.
- ROBBINS, L. 1932. *The Nature and Significance of Economic Science*, London: Macmillan & Co.
- ROBBINS, L. 1938. "Interpersonal comparisons of utility: a comment", *The Economic Journal*, 48(192), 635-641.
- ROY, A. 1999. "The greater common good", <http://www.narmada.org/gcg/gcg.html>.

SEN, A. K. 1972. "Control areas and accounting prices: an approach to economic evaluation", *The Economic Journal*, 82(325), 486-501.

SQUIRE, L. 1989. "Project evaluation in theory and practice", in H. Chenery and T. N. Srinivasan (eds.), *Handbook of Development Economics*, vol. II, Amsterdam: North Holland.

STIGLITZ, J. E. 1999. *Economics of the Public Sector*, Third Edition, New York: W.W. Norton.

UNIDO 1972. *Guidelines for Project Evaluation, Project Formulation and Evaluation Series*, no.2, New York: United Nations.

WORLD BANK 2000. *World Development Report 2000/2001, Attacking Poverty*, Washington, DC: Oxford University Press.

For a New Economics of Resettlement: A Sociological Critique of the Compensation Principle

Michael M. Cernea

Abstract

Many development projects intended to alleviate poverty end up increasing poverty by displacing large numbers of people without reestablishing them viably, despite the use of compensation payments for assets lost. This paper appreciates the contribution of economic science to matters of compensation. However, it also subjects the theory of compensation to critical scrutiny and deconstructs the practice of compensation to highlight its fallacies, distortions, and outcomes. In particular, the paper critiques: (a) the economic theory that predicates the socio-economic recovery of those displaced only on the principle of compensation for losses; (b) the resettlement policies that tolerate a mismatch between objectives and means; and (c) the methodology that planners often employ in appraising projects with resettlement, which is inadequate to the task.

The author argues that the magnitude of the combined material and non-material impoverishment risks and losses experienced by those displaced far exceeds the redeeming powers of narrow compensation-centered solutions offered by conventional economics. He identifies a structural incongruity in policies which define their goals as improving or restoring resettlers' livelihoods, and rely only on compensation as the virtually sole means for achieving either of these goals. To demonstrate this, the paper outlines several basic limitations and flows in compensation reinforce the main poverty risks inherent forced displacements, as demonstrated in the model of impoverishment risks and reconstruction (IRR).

Targeted investment financing benefiting those displaced is necessary as part of the regular development projects' investments, to complement compensation for damages and make the achievable policy goals in resettlement. A shift is advocated from the "economics of compensation" towards a full "economics of resettlement with development" focused on affected peoples' sustainable reestablishment rather than on compensation alone. Additional investment resources for resettlement with improvements can be secured in several ways, and primarily on account of sharing project benefits with those displaced.

Biographical note

Michael M. Cernea is Research Professor of Anthropology and International Affairs at George Washington University in Washington, DC. In 1974, he joined the World Bank as its first sociologist/anthropologist. As the Bank's Senior Advisor for Social Policy until 1997, he worked on defining the content of various development policies, including the Banks' resettlement policy, carried out project field analyses, and social research. He has published several books on development sociology and anthropology, populations resettlement, rural development, and culture. For his anthropological contributions to development policies, he received the Solon T. Kimbal Award (1988) and the Bronislaw Malinowski Prize (1994).

Email: mcernea@worldbank.org

For a New Economics of Resettlement: a Sociological Critique of the Compensation Principle

Michael M. Cernea

Central in the socio-anthropology of population displacement is the impoverishment of those displaced and the options for resettlement with development. Several basic questions are now of increasing concern to many governments, to development agencies, and to the public at large. Why does development-induced displacement so often cause impoverishment? How can resettlers' basic rights and entitlements be protected and their impoverishment be prevented?

Displacement: a perverse companion of development

Many development projects that aim to reduce poverty by building new infrastructure, industrial platforms or irrigation systems, or even establishing parks and road networks, also cause forced population displacements because they need land and "right of way". Such displacements are one of the most perverse social pathologies of induced development.

After having long been dismissed as occasional "secondary effects," involuntary displacements have now come to be widely recognized as a major economic, ethical, and political problem in induced development. This perception shift is explained by several factors: displacements' size; frequency; catastrophic poverty effects; social research findings; and no less, the rising combativity of those displaced. Numbers are staggering. In India alone, more than twenty million people were forcibly displaced by development interventions between 1950 and 1980; of these, 75% -- that is, 15 million people—have ended up *worse off* than before resettlement (Fernandes, Das, and Rao, 1989). In China, no less than 40-45 million people have been displaced over fifty years (1950-2000). Chinese self-estimates, for instance, indicate that out of more than twenty million people displaced by water and dam projects alone, just about one-third were "resettled well"; of the rest, one-third were resettled only "so-and-so" and one-third were resettled "not

well”(Shi, Su and Yuan, 2002). Some individual large scale projects may each displace tens or even hundreds of thousands of people.

Because displacements are such a costly development pathology, efforts are being constantly made to avoid them. Indeed, certain project-caused displacements can be fully avoided, for instance, by optimizing technical project design. In other cases, project-generated displacements are so badly conceived that the projects that cause them should not be allowed to proceed. But assuming that, ideally, all badly conceived projects were preempted, and that all avoidable displacements could be avoided, would the need for displacement disappear? Unfortunately, not. There would still remain many programs that are vastly beneficial and indispensable overall, but which would also entail some unavoidable population displacements and relocations, with their likely chain of dire consequences.

Furthermore, the need for such projects is not passing with time. This need is a regularity of development. In my estimate, it is more likely that the frequency of displacements may increase, even if their magnitude will be kept in check better. Demographic growth, urbanisation, and the inelasticity of land will continue to require changes in the current use-patterns of lands and waters. This guarantees that the displacement problems will remain a permanent issue on the development agenda.

If the need for some projects that entail relocation cannot be avoided, can something be done to prevent their destructive, impoverishing effects? The response, as I will argue further, points towards changing the economic concepts and analytical methodologies that govern how displacement is planned and implemented, and how resettlement is financed. Without correctly understanding the severe impoverishing consequences of displacement, the inequities between gainers and losers from such projects will be surely amplified and perpetuated: more than a few displaced people will end up *worse off*, poorer than before the project. New poverty will take root under the wings of programs that aim to reduce pre-existing poverty.

Some critics of current displacement practices propose a “remedy” that is unfeasible and counter-productive: they call for renouncing *all* development projects that entail resettlement,

however justified these projects are on development and poverty-reduction criteria. This is a conservative, untenable proposition. Should such projects not be carried out, their developmental and poverty-reduction benefits will not occur either.

Therefore, the stark choice is: should the cost of reducing poverty for some be paid by impoverishment of others? Or, can ways be found to eliminate or reduce impoverishment through displacement?

This concern for preventing impoverishment brings us to the key issue of compensation, the subject of this paper. Compensation is the usual operational “remedy” employed universally as a means of restitution for project-caused asset-dispossession, economic disruption, and income loss. *But is this instrument capable of performing the function attributed to it?*

The same question gets heightened relevance if elevated to the policy level. Policies on involuntary resettlement define as their objectives to improve or at least restore resettlers’ prior livelihoods and incomes. “Improving or “restoring” are *two distinct goals*. Yet, for achieving one or another of these grand goals, these policies prescribe as *the basic means* -- the payment of compensation for lost assets, at replacement costs. We thus arrive at the *fundamental question that must be asked frontally* at the policy level: *Are goals and means correctly matched within resettlement policies themselves?* Is this policy means capable of delivering the intended policy goals?

If the answer is affirmative, and if the means are indeed applied, projects with resettlement will not any longer create gainers and losers, but rather only gainers. The challenge would be only to correctly implement these means, for achieving the desired goals. But if the means, *horrible dictu*, are not up to the goals, then even the best implementation of insufficient means cannot achieve the pursued goals.

Notwithstanding the criticism that can be leveled at the inefficiencies of compensation -- and considerable criticism will be expressed further -- it must be unambiguously stated from the outset that compensation is not just important in resettlement, it is indispensable: full

compensation for losses is one of resettlers' rights and entitlements. Yet in the practice of resettlement, despite compensation, most resettlers end-up worse off and impoverished. Unfortunately, mainstream economic theorists do not revisit the thinking upon which loss evaluation and compensation are based, and impoverishment effects are allowed to continue.

In this paper, we will explore the links between goals and means in resettlement, focusing on compensation as both principle and practice. We will and we will also extend the discussion from compensation to the broader issues of resettlement economics.

Critique, Convergence and Divergence

In two recent books -- *The Economics of Involuntary Resettlement* (Cernea 1999), and *Risks and Reconstruction* (Cernea and McDowell 2000) -- I brought up the economic inconsistencies in dealing with resettlement explicitly to the attention of my colleagues-economists (immediately those at the World Bank, but more broadly the development economics profession at large). Crossing disciplinary boundaries, I expressed an invitation to development economists to critically reexamine the economic thinking and methodology that guide resettlement operations in projects. My own critique placed into discussion: the weaknesses of compensation theory and practice; the arbitrariness of valuations of losses; the inadequacy of the cost-benefit analysis (CBA); and the absence of distributional analysis in projects with displacement.

To address these difficult issues, I called upon “the expertise of *professional* economists (since) a solid economic methodology is indispensable for resettlement projects....”. That call emphasized that “the economics of resettlement....holds generous promise for research and for consistent translation of knowledge into long overdue analytical tools” (Cernea 1999, pp. 13, 25).

There has been little response from economic quarters so far. The same methodologies continue to reign by inertia and cognitive dissonance, despite the feedback from practice.

However, in a recent international conference at Cornell University (November 2001), a leading development economist, Ravi Kanbur, joined this debate and directly responded to some of the issues outlined above (see Kanbur's paper in this publication, and also Kanbur 2003). Kanbur takes as his conceptual grounds the Pareto improvement principle – its change-justification and ethical implications—applying it to projects that cause involuntary displacements. From these grounds, he rightly states: "...whether to go ahead with a project which creates losers as well as gainers even after attempts at redress, often to those who have been displaced...has to be a central question in development analysis and policy." Kanbur readily admits that the position of economic science on compensation "is a position often critiqued by other disciplines." To dispel underestimation, Kanbur undertakes a respectful walk through the history of economic thinking, demonstrating convincingly "how economics has struggled mightily within itself to arrive at a position" on the theory of compensation. This theoretical retrospective begins with Pareto's improvement principle and ends with a recent (1999) discussion by Stiglitz, who favors a cost-benefit-analysis using weighted sums of gains and losses according to an equalitarian scale. We readily agree that Kanbur's demonstration is convincing *as far as the type of losses* historically addressed in past economics are concerned. But one of the key questions was not asked in Kanbur's paper: the question of whether the type of massive, simultaneous and near-total dispossession of assets of many people of their productive and income-sources, characteristic in forced displacement, is of the same nature with the situation previously considered in economics, and thus prone to the same remedy.

Even without asking this question, however, Kanbur ends his analytical retrospective with open dissatisfaction, concluding that the development economics position has not tested out successfully: "This way of doing things does not seem to have panned out in practice, especially in the context of development projects" (Kanbur 2003).

Indeed, it has not. And crucial in Kanbur's conclusion is the specification about ineffectiveness "*especially in the context of development projects.*" This "project context" together with today's "policy context", are to me of primary interest.

For such projects that entail displacement, Kanbur recommends a big policy step forward over the traditional granting of compensation, a step that is ahead of mainstream development economics: given inefficiencies in compensation, he suggests not just reinforcing the use of weights in project appraisal or CBA, but also proposes that compensation mechanisms be complemented by the introduction of “generalized safety net” measures.

There are at least three important points of convergence between my and Kanbur’s discussion of compensation. First, we agree that direct compensation mechanisms are necessary, should be employed, and should be improved. When displacement and its entailed losses occur in projects, compensation performs a *prima facie* positive function. Second, there is convergence and agreement that compensation mechanisms are not able to fully do the job, that reliance solely on these mechanisms is tantamount to depriving resettlers of part of their due, and that correctives or supplementary resources need to be introduced. Third, that the absence of explicit equity criteria, resulting in the creation of gainers and losers from the same project, the absence of a distributional perspective, and the un-weighted ways in which cost-benefit analysis is routinely practiced, obscure project-induced inequities and allow impoverishment to occur.

The introduction of generalized safety nets in addition to compensation would certainly add an important lever for enabling resettlers to overcome the risks of impoverishment. As Kanbur suggests, such “redistribution mechanisms and safety nets (would) come to the fore to complement project-specific compensation... would prevent destitution as the result of a project on which compensation was not paid” (2003). This recommendation may turn out to be seminal. It deserves to be explored further. Operational questions are: how to design such safety mechanisms, whether they are politically feasible and practicable, and how can they be included in resettlement policies. We can only agree with Kanbur’s call that: “a joint theory of project-specific compensation and generalized automatic safety nets now awaits development” (2003). How to design safety nets as germane measures to remedy the in-built limitations of compensation, needs, of course, to be explored further. The definitions of eligibility and of amounts are complex matters. Delivery mechanisms would raise additional questions. But the need to fill in the gaps uncovered by compensation alone makes it necessary to face these usual difficult question linked to safety nets.

Yet besides our essential agreement with Kanbur's analysis, on several issues our argument diverges from his, not disagreeing but rather following a different logical path.

First, our critique of the compensation principle is more severe. We argue that compensation is *structurally* unable to resolve the task of restoring incomes and livelihoods to where they would be in the absence of forced displacement. Because of the very nature of compensation, it is doubtful that even with additional safety net measures, however useful these may be, compensation means could fulfill the functions and burden that economic policy and theory assign to it in restoring and improving pre-project livelihoods.

This inconsistency is compounded by the use of un-refined project economic analytical techniques. These techniques, in turn, being confined to compensation as the lone economic remedy, prevent the realistic financing of resettlement: they fail to lead to the allocation of commensurate resources for post-displacement reconstruction, rationalize under-financing, and contribute to project-induced impoverishment.

Furthermore, while Kanbur addresses only the theory of compensation, our attempt is to take the critique beyond this theory and pursue the argument several steps further than compensation itself. The issue at stake is much bigger. We believe that the debate must be elevated to the level of policy and must also be extended to the broader area of the economics and financing of resettlement. The need to arrest impoverishment creep under unsound resettlement calls for re-examining the overall approach to resettlement and specifically two of its building blocks: the congruence between policy goals and means, and the economic/financial basis on which resettlement operations are predicted and planned.

The ultimate policy objective in involuntary resettlement – as adopted by some governments and by agencies such as the World Bank, the Asian Development Bank, and OECD countries' aid agencies -- is to resettle with improving or at least restoring¹ the income and livelihood levels of

¹ “Restoring” and “improving” livelihoods are two different levels in the policy objectives. Obviously, restoring at pre-project levels, when those levels were poverty levels, is a minimal objective, and entails moral hazards, yet even this simple “restoration” is not accomplished in many resettlement processes. “Improving” requires a different strategy and more resources.

those displaced. The policy premise is that full compensation at replacement cost for assets lost would be adequate to achieve the goal. In light of the many lessons learned in recent years, we argue against this entrenched assumption as being unwarranted and confined. Logical/historic analysis (as done by Kanbur), as well as massive bodies of empirical evidence accumulated over the last two decades defy the assumption about compensation as panaceum.

Because of this incomplete match of means to goals, the goals of improving incomes and livelihoods are inherently destined to remain most often unreachable. Anticipation on the next parts of this paper, we argue that what is necessary to help lift the displaced people *above* their pre-project livelihood levels, in our view, is **investment financing**. By its nature and functions, investment financing is a different development tool than compensation. Development-oriented investments must be used as a supplemental means over and above compensation resources to match the policy goals in resettlement. At the conceptual level, this requires shifting from the current compensation-centered economics of resettlement to an income-improvement centered economics for achieving resettlement with development. Why this is necessary will be explained further.

The sociological perspective

Returning to Kanbur's analysis, it is now our turn to respond to one of his questions. Indeed, after expressing dissatisfaction with the "conceptual compromise" in development economics on the distribution of gains and losses in the case of displacement, Kanbur is loyal to his belief in interdisciplinary compensation (2002) and tosses the question back: "How would other disciplines respond to the same challenge?"

Sociology and anthropology are the two disciplines with the longest history of research on forced displacements. Their empirical findings have led to understandings and theorizing that cast indeed a different light on displacement and recommend alternative responses.

Anthropological research on development-caused involuntary displacement has a distinguished intellectual record. From its beginnings it has covered sites located in both developed countries

(Richardson, Herbert Gans, a.o) and in developing countries (Roy Burman, Scudder, Colson, Mahapatra, Fahim a.o). Early investigations were followed by a spectacular explosion of research in the 1980s and the 1990s (see bibliographies by Guggenheim 1994; Rodrigo-Lin and Maninder Gill, forthcoming 2003). Sociologists from developing countries, particularly India, Brazil, China, Mexico, Egypt, and Nepal, have added richly to the literature by reporting the displacement effects of many development projects, and by making policy recommendations.

This research has brought back, time and time again, a very critical and empirically substantiated challenge to the “compensation principle” in situations of mass displacement. Perhaps the most frequent common finding in early resettlement studies (too many to be listed here: see the resettlement bibliography by Guggenheim (1994), and Lin Rodrigo and Gill, (2003) was precisely the finding that compensation – for a multiplicity of reasons, both intrinsic and extrinsic to compensation – simply was not able to genuinely compensate and secure the productive and enduring reestablishment of those displaced. Recent resettlement research continues to bring new confirmation to the same conclusion (Nayak, 2000; Prasuranam, 1999; Guha 2001; König and Diarra, 2000; Kibreab, 2000; Bhattarai, 2001; Schmidt-Soltau, 2002)

The dominant, most important and universally corroborated finding has been that in developing countries a vast number of displaced people have ended up worse off, poorer than they were before development projects displaced them. These outcomes fly in the face of official development discourse. Can it be that compensation was not delivered in all these impoverishing projects? Not at all. Research has reported compensation as an universally applied “remedy”, but also as universally insufficient and inherently prone to distortion.

We will detail further the sociological perspective on the compensation principle and practice under two headings: the faces of under-compensation and the impoverishment risks imposed on displacees.

The faces of under-compensation

It is first necessary to reach clarity on the very nature of compensation payments and on the functional difference between them and development investments.

Compensation is not a new investment. The function of compensation in projects is not the same as the function of investment made in new infrastructure: the function is damage substitution. Simply put, compensation only returns to the displaced people something that was taken away from them. By definition, it does **not** provide them with anything more than simple repayment, that is with nothing above what they had before. (Most often, as we shall see, it provides them with *less* than was taken from them, but for a moment we leave this aspect aside, and will return to it a bit further). Being even at its upper limit, theoretically, no more than the equivalent of what those uprooted had before and were forced to lose, it cannot be argued that by some miracle compensation can produce an improvement in livelihood levels compared to pre-displacement levels. Thus, as a policy “goal”, improvement is practically born dead.

Compensation is delivered usually in cash, and sometimes in kind. When it takes the form of cash, it transfers upon those displaced all the risks related to the market-use of cash for acquiring replacement assets. These severe risks are well known.

Evidence demonstrates irrefutably that the purchasing power of cash compensation typically ends up being less than necessary to repurchase the assets lost (even if compensation is paid at replacement costs). The transaction costs, the production time wasted, the start up costs of a new productive activity, etc. are also to be born from the same “compensation”, further eating down into its effective value. These factors subvert replacement at par. Various cultural pressures and immediate needs often divert fractions of the compensation proceeds away from asset replacement. Land markets are often limited, prices go up under sudden demand, and the worth of compensation goes down. In other words, the practical effectiveness of compensation as a restorative instrument is hobbled.

Social research has generated also another huge body of empirical findings that reveals the **practical** limitations of the compensation principle. This evidence shows that compensation as a remedy tool is vastly impaired by its extreme vulnerability to administrative distortion, twisting, subtraction. The most frequently reported forms of under-compensation (and implicit externalization of costs) as a result of this vulnerability are:

- Undercounting of condemned assets for which compensation is due, and thus not paid (Parasuraman, 1999; Mahapatra, 1999)
- Arbitrariness and market-defying subjectivity in the valuation of assets, with consequent partial- or non-replacement of lost assets (Nayak, 2000; Ota and Agnihotri 1996);
- Un-recognition of non-physical losses, difficult to measure, and failure to account for non-market income and costs (König and Diarra, 2000; Pandey, 1998)
- Under-compensation resulting from the late disbursement of compensation to those who are left assetless for an unacceptable time period (Mahapatra, 1999; Guha 2001; Gibson 1993);
- Subtraction by corrupt officials of part of the compensation money before it reaches those rightfully entitled (Maybury-Lewis, 2003; Parasuraman 1999);
- Under-compensation because of lost consumer surplus from existing assets (Pearce 1999);
- Preemptive exclusion of some common assets from consideration (Kibreab, 2000; König and Diarra 2000; Schmidt-Soltau 2002);
- Asset-price upward changes occurring after the determination of compensation, which diminish the purchasing power of compensation recipients (Downing and Garcia-Downing, 2002); and
- Recipients unaccustomed to handling cash tend to misdirect compensation money and are soon left both assetless and cashless (Mahapatra, 1999; Nayak, 2000; Hakim, 2000;).

It is fair to ask: Should the economic theory that legitimizes the “compensation in principle” be faulted for the distorted administrative application of compensation tools by incompetent or

corrupt officials? The answer, obviously, is negative. Yet, when a tool that seems powerful in theory turns out in practice to be weak, and prone to chronic flaws, the theory surely cannot remain aloof, indifferent to feedback. There is a scholarly and ethical responsibility to search for and recommend alternatives.

How Arbitrary Can Compensation Get?

An explosive four-day standoff took place in August 2002 in the small town of San Salvador Atenco, Mexico, as a result of plans to expropriate land and displace local farmers for building a new airport for Mexico City. The Government-sponsored airport project had offered farmers an arbitrarily-set low price as compensation for the 3000ha earmarked for expropriation. For about a year, affected farmers have been resisting compensation and displacement. *No consultation about compensation rates had been initiated with the villagers.*

State officials rejected the farmers' protests and, instead, sent in the police, who arrested and imprisoned ten of the farmers' leaders. The villagers responded by the thousands: they demonstrated, blocked a nearby four-lane highway, and took fifteen officials hostages, threatening to kill them unless their leaders were freed. The stand-off lasted four days and grabbed headlines in the international press, greatly embarrassing the Mexican Government. After four days, the police freed the farmers' leaders, and farmers released their hostages. Realizing that under-payment will not work, Government authorities recalculated the compensation and suddenly announced a huge—700%— increase of its original offer. At this point, however, the antagonized farmers declined. The Government announced the cancellation of the airport project.

Many aspects of this case deserve analysis, but most relevant to the argument of this paper is the arbitrariness of the compensation calculations. Both the initial low compensation and the subsequent seven-fold increase suggest how – despite claims to objective valuation – in practice, subjectivity prevails. In this case again, it was twined with a transparent attempt to externalize costs. Had the farmers accepted the initial compensation offer, impoverishment would have been certain.

The inefficiencies and incompleteness of compensation are implicitly recognised in practice when some countries introduce patchwork “repairs” intended to compensate for the defects of compensation in displacement. These repairs take the form of ad-hoc “grants” or “allowances”, payable to displaced people over and above the compensation. For instance, in India there is a “solatium grant”, which derives its name from the concept of “solace”. It is given to help overcome the intangible hardships entailed by displacement, but it is practiced haphazardly, with vast and subjective differences from state to state, project to project.

Sometimes, the amount and number of allowances or grants, or even the valuation of assets for compensation tariffs, are subject to a negotiating process between affected people and project or government authorities. When such negotiations and arbitrations are conducted fairly, compensations are often enhanced, approaching replacement costs. Yet most often the weakest communities, may get the least, because their weakness reduces their bargaining capacity – an essential flaw in compensation systems which are not regulated by law. The happenstance practice of such grants can be seen, in my view, as one more reason in support of Kanbur’s recommendation to introduce generalized safety net provisions.

Manipulating the Right to Compensation

Some project authorities often try to diminish or deny legitimate compensation entitlements, thus directly subverting development ethics, policy and law. One instance of such unethical manipulation in India was described by Maybury-Lewis (2003).

Under Indian law, tribal groups and scheduled castes are entitled to special consideration and compensation when displaced. The administrators of a major project, however, wanted to reduce the compensation payments. One way to do this was to deny the tribals their claim to tribal status. Indeed, the author did so, claiming that they can notice some Hindu features in the tribal culture and these were not real tribals and therefore were not entitled to full compensation. This was *“an instance driven by an interest in cutting compensation costs, rather than by a subtle understanding of cultural similarities and differences.”*

David Maybury-Lewis (2003)

There is a vast gap between what the current economic methodology produces for determining compensation, on the one hand, and the cumulative losses plus re-establishment costs incurred in real life by displaced people as a result of expropriation and relocation, on the other hand. Because this large gap is not covered in project economic methodology, resettlers suffer multiple deprivations. This gap is also unregulated by law and rights-protection policies. This supports my argument about the need to go beyond compensation and articulate a more complete “economics of resettlement”, fully placing in the service of the resettlement policy’s declared *objectives*. The goals of a policy should be taken as the logical guiding compass for the economic reasoning developed towards applying that policy. When policy goals become the tone, compass, the question to be asked will change to: *what array of economic and financial*

means, and what set of indicators and analytical techniques, must be mobilized in order to reach the policy goals of improving resettlers means and livelihoods?

The Impoverishment Risks in Displacement

The losses and inequities that are not covered by compensation become starkly visible through their consequences: the impoverishment of most resettlers. There is a specific and dramatic structure to the poverty effects germane to forced displacement.² For this, I will refer to a research I undertook to **identify regularities** in the displacements' outcomes.

Submitting empirical data reported by many researchers worldwide to a comparative analysis, we distilled a “model” of basic impoverishment risks recurrent in displacement; we also defined the counteraction strategy needed to match, contain or mitigate these impoverishment risks (Cernea 2000). This model unbundles the syncretic, multifaceted process of impoverishment into its primary components. Evidence reveals the following fundamental and recurrent risks: (a) landlessness; (b) joblessness; (c) homelessness; (d) marginalisation; (e) increased morbidity and mortality; (f) educational losses; (g) food insecurity; (h) loss of common property; and (i) social disarticulation (Cernea 1997, 2000).

Before forced displacement actually begins, these processes can be defined only as *impending* risks – risks of losing property, civil rights, and identities. But if preventative or alternative counteractions are not initiated, these potential hazards become actual losses and the hard realities of impoverishment. The cumulative effect of these processes is the decapitalization of resettlers, the rapid onset of multidimensional impoverishment or the aggravation of poverty for those already poor.

²The empirical material supporting this model cannot be reproduced in the present article. For a detailed presentation of the Impoverishment Risks and Reconstruction (IRR) Model for resettling displaced population, see Cernea 1997, 2000. See also the book-length study by Mahapatra (1999), who tested the IRR model through a vast secondary analysis of empirical findings available in India's resettlement literature; see also studies by Downing 2002; Kibreab 2003; Pandey 1998; Guha 2001; Schmidt-Soltau 2002.

The intensity of each impoverishment risk tends to vary depending on local conditions, population group, type of project, or type of displacement. Outcomes range in severity. But in most cases, empirical research found chronic impoverishment well entrenched even long after, and despite of, the payment of compensation. This tells us that -- in case after case after case -- compensation came up short and was unable to prevent impoverishment. If resettlers become worse off, it is nearly always an indicator that project costs have not been properly internalized. They were transferred on to resettlers who end up poorer than they were before the project. The principle of compensation and the practice of compensation have not proven capable of preventing cost externalization.

Resettlers' losses in income, assets, rights, are multi-sided -- economic, social, cultural, in cash and in kind, in opportunities, in power. Resettlers lose not only natural or man-made physical capital but also human and social capital, through the unraveling of patterns of social organization and of mutual help networks. The income lost is not only cash income, but also wealth that is psychological in nature, including culture, status, and identity.

This is how forced displacement becomes the cultural-economic equivalent of an earthquake that shatters production systems and social networks, undermines identity, and plunges those affected on a downward poverty spiral. Field studies have vividly reconstructed how displacements instill loss of confidence in self and in society and renders much human capital obsolete. Cultural effects, combined with the seizure of assets accumulated through prior generations' labor, result in the near killing of enterprise and entrepreneurship. Discouragement strikes deeply at the human ability for recovery.

These cultural and psychological pains and losses -- whose lethal combination has been revealed through perceptive sociological research -- inflict in turn long-term harm to resettlers. This harm is additional to the measurable market value of the physical assets subject to compensation. We are led to conclude, therefore, that the magnitude and span of the material and non-material *impoverishment* of displacees exceed by far the redeeming powers of compensation-centered solutions.

Indeed, it is against this total process of impoverishment through displacement (not just against the loss of physical marketable assets) that the insufficiency of the compensation principle and practice appears in full light. Many of these real costs to resettlers are not even considered for possible compensation since they cannot be monetised. Other losses as well are not recognized in project economic planning. The guidelines for project economic analysis thus fail to adhere to the essence of the compensation principle. They fail to capture the full costs of dislocation and reestablishment and therefore fail to legitimize in technical-economic terms full restitution to project losers.

To conclude, the link between compensation and impoverishment is direct, in that the decapitalization of displacees is only partially repaid through compensation. For the resettlers compelled to cover this net difference out of their own livelihood, the outcome is “new poverty”(Downing, 2002). The policy message embodied in the IRR model is that the impoverishment risks imposed on resettlers can be brought under control only through an *encompassing* development strategy supported by development investments. It cannot be tamed through piecemeal measures based solely on compensation for damages (Cernea, 2000).

The case for investment: achieving resettlement with development

Perhaps the most important critique of the compensation principle’s inadequacies, additional to those outlined above, is that it leaves un-addressed the time dimension of recovery. Displacement being a major set-back, it becomes necessary to finance a “catch up” effort for re-development. Empirical social research and secondary analyses have documented that forced displacements interrupt the meager growth that the pre-project communities might have experienced on their own (Scudder 1997, Mahapatra 1999). Such communities not only lose assets, but also forgo the growth which without the project might have continued. While the affected groups are set back, other surrounding communities continue their self-development path.

For the displaced people to “restore” their living to where it would have been without the project, they need to “catch up”; that is, they need to recuperate the time lost due to displacement

interruption by accelerating the pace of development, achieving a faster pace than, say, the surrounding communities. But such acceleration would require a surplus in investment. The compensation, however, would only provide for past asset replacement, but not for investment that could accelerate progress to enable displaced communities to catch up for the lost time.

Analysing the income curve of resettlers after displacement, Pearce (1999), Cernea (1988, 1999), and Shi and Hu (1994) have shown that the replacement of capital through compensation (even if it were to happen in full, which as argued in this paper it never does) could secure at best the same pace of development as before. But it would not be able to overcome the time lost and thereby achieve “catch up”. It is only through additional investments that the re-climbing path of re-development could become steeper and make up for the lost time relative to unaffected communities (see Pearce 1999). The resettlers fully suffer “relative deprivation” compared to their non-displaced neighbors. Unfortunately, the *principle of investing* in sound resettlement is still far from being established, either in the economics of resettlement, or in practice.

Yet, it must be said that recommending investment financing for the resettlement of displacees is not an unheard of, radical idea.

Indeed, investments of public resources have been and are routine practice in all and every single new land settlement project, when resettlers are not forcibly displaced, but simply invited to settle new lands brought into development. This has been the practice in, for instance, all land settlement projects supported by national governments in Asia and Africa over the last 40 years, many of them financially assisted by the World Bank or ADB. If it is conceivable to channel public resources for the development of resettled populations that are not dispossessed but rather endowed with new valuable assets, is it not even more logical to allocate financing for the re-development of forcibly resettled populations, subjected to sacrifices in the name of development? In fact, investment financing is a basic principle in all rank and file poverty-reduction development projects, not just in land settlement projects.

Furthermore, the argument for development investments can also rest, in many situations, on the premise that those who give their lands to the new project are in fact “investors of equity” in

those new projects. As investors they are entitled to a share of the benefits. Upfront investments are nothing more than an advance on those benefits. This issue is certainly more complex and requires a broader discussion than this paper allows.

The counter argument to making investments in addition to compensation for resettlers' benefits typically invokes the scarcity of resources and competing demands. Scarcity is an undeniable constraint. But if the project delivers its benefits to some and generates losses to others, as so often is the case, one response is long known in economics (and is mentioned by Kanbur): taxing the new benefits would provide managed tax revenues, resources which can help readjust the balance between losers and gainers. Establishing project-related mechanisms for more equitable sharing of benefits can provide the resources necessary for complementing sheer compensation with incremental investments financing. This approach would surely go much farther towards making resettlers better off, not impoverished and worse off, and towards achieving *resettlement with development*.

The objective need for investing in resettlement to improve resettlers' conditions above pre-project levels is also demonstrated by comparative research between involuntary and voluntary resettlement programs. One special study was carried out in the World Bank to compare the design and financing of these two types³ of resettlement projects (Eriksen 1999). The study led to unanticipated and paradoxical findings: in project after project, the voluntary resettlers on new lands (who were **not** dispossessed at their point of departure, but fully maintained ownership of their assets, were able to sell or transfer to relatives) were financed with substantial public investment resources, including free land, tools, tax holidays and financial incentives, often training, etc., to enable them to build a new and sustainable economic/productive basis; they

³ The study used a simple yet ingenious methodology. A total of 18 projects financed by the World Bank in five countries (Ghana, Brazil, India, China and Indonesia) were identified and paired on a country by country basis. Each pair consists of one project supporting voluntary resettlement and one project in the same country containing an involuntary resettlement component. Appraisal reports were used for *ex-ante* data and completion reports for *ex-post* data. This is the largest set of data submitted so far to such study, and is richer than data available on projects financed from domestic sources alone. Several variables – from type of farm model, household income, and method of project risk assessment, etc. were examined. The findings of this comparative research persuasively demonstrated that in nearly all cases, the differences within the pair of projects were to the direct detriment of people forcibly displaced. Failures in involuntary resettlement were shown to originate from errors of strategy, from inadequate or absent economic analysis, and from non-allocation of targeted financing for resettlement components at project appraisal stage. The study argued that changes of paradigm and method are imperative.

were also endowed with added common property assets. On the contrary, the project components designed to support involuntary resettlement did not provide any *additional* investments to the tens of thousands of forcibly uprooted people compelled to make sacrifices and abandon their immobile possessions: graveyards, prayer houses, etc. (Eriksen 1999). Only payments for imposed expropriation were included in these projects, in the form of compensation; regarded as payment for loss only, in a zero-sum equation;⁴ no financing was provided in any of the projects studied towards the additional costs of reconstruction and no investment support made towards achieving improved livelihood levels.

This different treatment of voluntary and involuntary resettlement not only discriminates and defies logic and equitability. The comparative study demonstrated that the conceptualization of forced resettlement in project design and financial provisioning has been long dominated by a non-development philosophy and a narrow economic theory.

Securing additional investments for involuntary resettlers should not raise problems different in nature than securing investment resources for financing voluntary resettlement schemes. In the case of projects that entail involuntary resettlement, the benefits of the project itself can be anticipated and counted on as a source for these investment. Similarly, Kanbur's important recommendation for introducing generalized safety net mechanisms for resettlement projects, to complement compensation.

For a new economics of resettlement

A comprehensive economics of resettlement must rest, in our view, on at least two cornerstones: compensation resources and investment resources for financing resettlers' development. Broader speaking, it must articulate the full economic rationale and the tools for achieving the overall recovery and improvement of resettlers livelihoods, rather than dealing selectively with only one

⁴ The zero-sum, however, is not achieved in practice, as we have argued in the previous sections, because of the various distortions that reduce actual compensation. The real net result is cost externalization and under-compensation.

or another component of the economic processes inherent in displacement and successful resettlement.

Re-examining the economic conceptualization of resettlement means several things. First, it would require economic research on resettlement processes, research that would place compensation within the *specific* economic cultural and financial canvas of displacement and resettlement processes. It also demands re-examining the set of analytical methods and techniques employed in calculating the economics and financing of resettlement operations in development projects. This implies also overcoming the limitations of wholesale CBA, and analyzing the *distribution* of costs and benefits among project stakeholders (Cernea 1999). Such redesigned economics would help create consistency between the economic/financial *means* and policy *goals* in resettlement.

In development-induced resettlement the *policy goal* is not simply to compensate for specific losses. The policy goal is broader: to enable the uprooted displacees to re-establish themselves productively and improve their livelihood. While compensation is *one* of the means to meet this objective, it is not in itself sufficient. Development oriented investment resources, over and above the compensation of condemned assets must be channeled to the resettling population, if its accelerated development is pursued genuinely. This is little recognized in development economics and in project planning practice.

A brief walk through the evolution of the policy goal in resettlement, as described in some of the most authoritative policy documents of the World Bank, tells us the following.

- (1) In 1980, when the first World Bank policy on resettlement was issued, the policy objective was defined as “to restore [to their pre-project levels] and if possible improve” the income/livelihood standards of resettlers (World Bank 1980).
- (2) In 1986, this policy goal was strengthened, with the important addition that dismantled production systems need to be reconstructed: verbatim, “all involuntary resettlement operations should be conceived and executed as development programmes” (World Bank 1986).

- (3) In 1988, when the Bank's policy guidelines were first published by the Bank, the concept of "restoring" was explicitly defined as reaching higher than pre-project levels; that is, reaching a level that includes the growth that would have occurred "without the project" (Cernea 1988).
- (4) In 1990, the policy goal was again enhanced, being defined as "improving, or at least restoring" (instead of the previous wording "restore and if possible improve") the income and livelihoods levels of resettlers. It specified further that "all involuntary resettlement should be conceived and executed as development programs, with resettlers provided sufficient investment resources and opportunities to share in project benefits". (World Bank 1990)

Two elements appear clearly: First, the resettlement *policy goal* was never defined as just paying compensation, but as a complex socio-economic reconstruction process. Second, there has been a gradual elevation of the objective to be achieved in resettlement.

Yet despite this raising of the bar through several policy stages from 1980 until 2000, there has been no re-examination of the economics expected to underpin advances in policy. Nor has there been corresponding change in the financial instruments allocated to support the higher policy goal — i.e., the partial shift in emphasis from restoration toward improvement. . The array of financial means mobilised to implement the more demanding policy objectives has remained the same. An insufficiently financed mandate was created.

To sum up, the justification for *investment* as part of the financing of each resettlement component over and above compensation rests on three solid grounds:

- First, on economic grounds, forced displacement requires enabling those displaced to secure an accelerated path to catch up for forgone growth.
- Second, on policy consistency grounds, there is a deep mismatch inside many formal resettlement policies between high goals and insufficient means. The means of

compensation are not commensurate with the goal of restoration, let alone the goal of improvement and development.

- Third, on poverty reduction grounds, it is unacceptable to allow new poverty to creep in under projects aimed at reducing existing poverty.

The policy framework for investing in resettlement and broadening the economic foundations of resettlement operations is gradually emerging stronger. For instance, the revised resettlement policy issued by the World Bank in November 2001 states unambiguously that:

“resettlement activities should be conceived and executed as sustainable development programs, providing sufficient *investment resources* to give the persons displaced by the project the opportunity to share in project benefits” (World Bank 2001, my emphasis-MMC).

There is, however, still very little in this rewritten policy document about the procedures and norms by which such investments and participation in project benefits are to be allocated and implemented. Such procedures await now elaboration and application within the revised policy.

Important building blocks are already available for conceptualizing the new economic foundations for resettlement operations. Much can be learned, for instance, from progress in environmental economics, from other domains of development economics, from the vast research on poverty reduction and social protection, and from the (still few) direct studies on resettlement economics. (e.g., Pearce 1999; Kanbur 2003; Shi Guoqing and Hu 1994, Downing 2002). The vast and growing store of research in anthropology and sociology on the economics of displacement, on risks, and on secondary effects, provides a rich source of empirical data, knowledge, and theory. In short, the challenge to economists, sociologists, anthropologists – to jointly articulate a new comprehensive economics of resettlement – is not only important and overdue, but can now be met successfully.

References

BHATTARAI, ANANDA M. 2001. *Displacement and Rehabilitation in Nepal: Law, Policy and Practice*. New Delhi: Anmol Publications Pvt.

CERNEA, M. M. 1988. *Involuntary Resettlement in Development Projects. Policy Guidelines for World Bank Financed Projects*, Washington, DC: The World Bank.

CERNEA, M. M. 1997. "The Risks and Reconstruction Model for Resettling Displaced Populations," *World Development*, October, 1569-87.

CERNEA, M. M. 1999. "The Need for Economic Analysis of Resettlement: A Sociologist's View," in M. M. Cernea (ed.) *The Economics of Involuntary Resettlement: Questions and Challenges*, Washington, DC: The World Bank.

CERNEA, M.M. 2000. "Risks, Safeguards, and Reconstruction: A Model for Population Displacement and Resettlement," in M. M. Cernea, and C. McDowell (eds.), *Risks and Reconstruction: Experiences of Resettlers and Refugees*, Washington, DC: The World Bank

DOWNING, T. E. 2002. "Creating Poverty: The Flawed Economic Logic of the World Bank's Revised Involuntary Resettlement Policy," *Forced Migration Review*, 12, January.

DOWNING, THEODORE and CARMEN GARCIA-DOWNING. 2002. *Risk-liability Mapping in Development-induced Displacement and Resettlement*. Paper presented at the International Conference on Resettlement and Social Development, Nanjing, China, May.

ERIKSEN, JOHN. 1999. "Comparing the Economic Planning for Voluntary and Involuntary Resettlement," in M. Cernea (ed.), *The Economics of Involuntary Resettlement: Questions and Challenges*. Washington, DC: The World Bank.

FERNANDES, N, J.C. DAS, and S. RAO, 1989. "Development and Rehabilitation: An Estimate of Extent and Processes," in W. Fernandes and E. Ganguli-Thukral (eds.), *Development, Displacement, and Rehabilitation*. New Delhi: Indian Social Institute.

GIBSON, DANIEL. 1993. *The Politics of Involuntary Resettlement: World Bank-supported Projects in Asia*. Ph.D. Dissertation, Duke University. Ann Arbor: UMI

GUGGENHEIM, S. E. 1994. *Involuntary Resettlement: An Annotated Reference Bibliography for Development Research*, Washington, DC: The World Bank.

GUHA, ABHIJIT. 2001. *Land Acquisition Among the Cultivators of Rural Medinipur, West Bengal: An Anthropological Appraisal*. Ph.D. Dissertation. India: Vidyasagar University.

HAKIM, Roxanne. 2000. From Corn to Cotton: Changing Indicators of Food Security Among Resettlers Vasavas, in M. Cernea and C. McDowell (eds.), *Risks and Reconstruction*. Washington, DC: The World Bank.

- KANBUR, RAVI. 2002. "Economics, Social Science and Development," in *World Development*. April.
- KANBUR, RAVI. 2003. "Development Economics and the Compensation Principle", *International Social Science Journal*, nr.175. UNESCO, Paris: Blackwell.
- KIBREAB, Gaim. 2000. Common Property Resources and Resettlement, in M. Cernea and C. McDowell (eds.), *Risks and Reconstruction*. Washington, DC: The World Bank.
- KONIG, Dolores and Teman Diarra. 2000. The Effects of Resettlement on Access to Common Property Resources, in M. Cernea and C. McDowell (eds.), *Risks and Reconstruction*. Washington, DC: The World Bank.
- KIBREAB, G. 2003. "Displacement, Host Governments' Policies, and Constraints on Construction of Sustainable Livelihoods," *International Social Science Journal*, nr. 175. Paris, UNESCO: Blackwell.
- MAHAPATRA, L. K. 1999. *Resettlement, Impoverishment and Reconstruction in India: Development for the Deprived*, New Delhi: Vikas Publishing House.
- MAYBURY-LEWIS, DAVID, 2003. "Development and the Human Rights of Minorities," in Y. Kikuchi *Development Anthropology: Beyond Economics*, Manila. New Day Publishers (forthcoming).
- NAYAK, Ranjit. 2000. "Risks Associated with Landlessness". *Risks and Reconstruction*. M. Cernea and C. McDowell (eds.), Washington, DC: The World Bank.
- OTA, A.B. and Anita Agnihotri (eds.) 1996. *Involuntary Displacement in Dam Projects*, New Delhi: Prachi Prakash
- PANDEY, BALAJI and ASSOC. 1998. *Depriving the Underprivileged by Development*. Bhubaneshwar: Institute for Socio-economic Development.
- PARASURAMAN, S. 1999. *The Development Dilemma. Displacement in India*. The Hague: Institute of Social Studies.
- PEARCE, D. 1999. "Methodological Issues in the Economic Analysis for Involuntary Resettlement Operations," in M. M. Cernea (ed.), *The Economics of Involuntary Resettlement: Questions and Challenges*, Washington, DC: The World Bank.
- PETERS, GRETCHEN. 2002. "Mexico Shows How NOT to Conduct a Land Resettlement," *Christian Science Monitor*, July 30.
- RODRIGO-LIN, M., and MANINDER GILL., 2003. *Involuntary Resettlement Annotated Bibliography* (forthcoming)

SCHMIDT-Soltan, Kai. 2002. *The Environmental Risks of Conservation-Related Displacements in Central Africa*. Paper prepared for the International Symposium on Multidimensionality of Displacement Risks in Africa. Kyoto, Japan, November 2002.

SCUDDER, Thayer. 1997. "Development-induced Relocation and Refugee Studies: 37 Years of Change and Continuity Among Zambia's Gwembe Tonga," *Journal of Refugee Studies*, 6(3), 123-152.

SHI, GUOQING and HU, W. 1994. *Comprehensive Evaluation and Monitoring of Displaced Persons Standards of Living and Productions*, Nanjing, China: NRCR, Hohai University.

SHI, GUOQING, QING SU, and SONGLING YUAN, 2002. *Risks Control and the Design of a Social Security System for Resettlers: A Case Study in Xiaolangdi Reservoir Resettlement in China*. Paper presented at the International Conference on Resettlement and Social Development. Nanjing, China, May.

WORLD BANK 1980. "Social Issues in Bank Financed Project with Involuntary Resettlement", February, OMS 2.33, Washington, DC: The World Bank.

WORLD BANK 1986. "Operations Policy Issues in the Treatment of Involuntary Resettlement," Operational Policy Note 10.08, Washington, DC: The World Bank.

WORLD BANK 1990. *Operational Directive 4.30: Involuntary Resettlement*, Washington, DC: The World Bank.

WORLD BANK 1996. *Resettlement and Development: The Bankwide Review of Projects Involving Involuntary Resettlement 1986-1993*, 2nd ed., the Resettlement Report of Task Force led by Michael M. Cernea, Washington, DC: The World Bank.

WORLD BANK 2001. *Operational Policies 4.12: Involuntary Resettlement*, Washington, DC: The World Bank.

OTHER A.E.M. WORKING PAPERS

WP No	Title	Fee (if applicable)	Author(s)
2002-32	Stable Partnerships, Matching, and Local Public Goods		Kanbur, R. and S. Clark
2002-31	Samuelson Machines and the Optimal Public-Private Mix		Kanbur, R. and S. Clark
2002-30	An Incentive Compatible Self-Compliant Pollution Policy under Asymmetric Information on Both Risk Attitudes and Technology		Peterson, J. M. and R. N. Boisvert
2002-29	Market Efficiency, Competition, and Communication in Electric Power Markets: Experimental Results		Chapman, D., C.A. Vossler, T.D. Mount, V. Barboni, R.J. Thomas and R.D. Zimmerman
2002-28	The Shadow Economy in Post-Soviet Tajikistan		S. Kyle
2002-27	Are Joint Ventures with Local Firms an Efficient Way to Enter a Culturally Distant Market? The Case of Japanese Entry into the United States		J. F. Francois, T. Roehl, and J. M. Hagen
2002-26	Causes and Consequences of Food Retailing Innovation in Developing Countries: Supermarkets in Vietnam		Hagen, J. M.
2002-25	Management of National Parks in Developing Countries: A Proposal for an International Park Service		Chapman, D.
2002-24	Subsidized Vehicle Acquisition and Earned Income in the Transition from Welfare to Work		M. T. Lucas and C. F. Nicholson
2002-23	Effects of Food and Health Spending Patterns on the Health of the Elderly		Gómez, M. and C. K. Ranney
2002-22	Do Healthier Diets Cost More?		Ranney, C. K. and P. E. McNamara
2002-21	Population Growth and Poverty Measurement		Chakravarty, S. R., R. Kanbur and D. Mukherjee
2002-20	Achieving Efficiency and Equity in Irrigation Management: An Optimization Model of the El Angel Watershed, Carchi, Ecuador		Evans, E. M., D. R. Lee, R. N. Boisvert, B. Arce, and T. S. Steenhuis
2002-19	The Andean Price Band System: Effects on Prices, Protection and Producer Welfare		Villoria, N. and D. R. Lee
2002-18	Education, Empowerment, and Gender Inequalities		Kanbur, R.
2002-17	IFI's and IPG's: Operational Implications for the World Bank		Kanbur, R.

Paper copies are being replaced by electronic Portable Document Files (PDFs). To request PDFs of AEM publications, write to (be sure to include your e-mail address): Publications, Department of Applied Economics and Management, Warren Hall, Cornell University, Ithaca, NY 14853-7801. If a fee is indicated, please include a check or money order made payable to Cornell University for the amount of your purchase. Visit our Web site (<http://aem.cornell.edu/research/wp.htm>) for a more complete list of recent bulletins.