

## **Financial incentives for the mitigation hierarchy: green infrastructure**

John Reid, Irene Burgués, and Alfonso Malky  
Conservation Strategy Fund (CSF)

### **Abstract:**

Environmental impact assessments (EIA) are the main regulatory tool governments use to balance the development and environmental values at stake in infrastructure development. Currently, however, project developers' incentive for environmental performance, including the application of the mitigation hierarchy, dissipates as soon as environmental approval and financing are secured. Therefore, EIAs need to be accompanied by intelligently structured financial incentives. Incentives should be at the same scale as the cost of environmental compliance and operate over the entire period of time during which a project's environmental risks are present. Above all, incentives need to cover indirect impacts, such as induced deforestation, which for road projects can constitute an overwhelming share of the damage. Both governments and banks can provide these incentives. Among the options that warrant consideration, we highlight:

- Performance bonds for avoidable impacts, specified in each project's mitigation requirements.
- Up-front deposits for compensation of inevitable impacts, with funds earmarked for specific offsetting compensation in long-term habitat conservation or restoration.
- Accelerated depreciation in return for high compliance, with corresponding tax penalties for poor performance.
- Access to credit and public contracts conditioned on past environmental performance.

In general, incentives should be at the same scale as the cost of environmental compliance and operate over the entire period of time during which a project's environmental risks are present. Above all, incentives need to cover indirect impacts, such as induced deforestation, which for road projects can constitute an overwhelming share of the damage. Both governments and banks can provide these incentives. Governments must lead; as they establish the rules and provide the enforcement capacity needed to secure compliance. Banks, can use a blend of positive and negative incentives during the life of a given loan. With the right combination of targeted and timely incentives, the coming wave of infrastructure development can be done in a way that's economically sound and conserves natural ecosystems.

### **Discussion Paper**

Big road, dam and pipeline projects are continually mired in controversy over their environmental impacts, which, in fact, can often be devastating. It doesn't need to be this way. Projects can be chosen better, built in less fragile sites, done more carefully and more completely compensated with offsetting conservation actions. Why doesn't it happen?

Environmental impact assessments (EIA) are the main regulatory tool governments use to balance the development and environmental values at stake in infrastructure development. Currently, however, project developers' incentive for environmental performance dissipates

as soon as environmental approval and financing are secured. To truly protect the environment, EIAs need to be accompanied by intelligently structured financial incentives.

Both governments and banks can provide these incentives. Governments must lead; whether they own projects or not, they establish the rules and provide the enforcement capacity needed to secure compliance. Banks, for their part, can use a blend of positive and negative incentives during the life of a given loan. Beyond the period of a loan, banks' most powerful incentive is conditioning future access to, or the price of, credit on past environmental performance.

Incentives should be at the same scale as the cost of environmental compliance and operate over the entire period of time during which a project's environmental risks are present, which may be longer than the project itself. Above all, they need to cover indirect impacts, such as induced deforestation, which for road projects can constitute an overwhelming share of the damage.

As a practical matter, banking and government leaders should combine positive and negative incentives to avoid pushing projects to less rigorous lenders, and should aim for fair and politically feasible cost sharing between lenders, private companies, governments and beneficiaries of environmental services.

Among the options that warrant consideration, we highlight several for their promise:

- Performance bonds for avoidable impacts, specified in each project's mitigation requirements. This is among the most common of incentives now provided.
- Up-front deposits for compensation of inevitable impacts, with funds earmarked for specific offsetting compensation in long-term habitat conservation or restoration.
- A carbon deposit-refund system would be a special case of the previous two points, providing an up-front deposit, a part of which could be refunded (like a bond), based on long-term avoidance of impacts. The developer would free to mitigate impacts cost-effectively, and be paid back based on the actual protection accomplished.
- Accelerated depreciation in return for high compliance, with corresponding tax penalties for poor performance. The combination of these two mechanisms is important because otherwise developers would have no incentives for compliance beyond the (possibly very short) depreciation period.
- Access to credit and public contracts conditioned on past environmental performance. At an extreme, any lapse in compliance would relegate developers to a list on which they had no access to credit (from banks participating in the rating scheme) or public bids. Another approach would be to include the environmental score in the overall rating of public bids and as a determinant of the interest rate charged.

Our list emphasizes options that would be felt by project developers but also be practical to implement. Excluded, for example, are interest rates that would vary during the life of the loan, depending on environmental performance. While the measure would encourage environmental performance over the long-run, it would impose a troublesome level of cash-flow uncertainty on developers – even those who intend to fully comply with their obligations. Further, it would require that the interest rate band be expanded later in the loan as the proportion of interest to principal declined.

Another practical challenge is that performance-based measures require judgment. For this role, we suggest experts selected at random from a pool of accredited consultants and paid from an escrow account funded by the developer. The scope for subjective judgment must be minimized by choosing measurable performance criteria, for example, maintenance of ecologically acceptable flow levels in a river affected by a dam.

This point leads to another practical matter: the project developer's degree of control over performance criteria. A road agency, for instance, has a high level of control over keeping cut material out of streams. It has a moderate degree of control – via cooperation with other agencies – over induced deforestation. It has little control over weather-driven fires. Reasonable limits need to be placed on the developers' liability, just as they are in many other kinds of contracts. For example, a road builder might commit to mitigate indirect impacts by setting up a protected area. They should decree the area, resolve land-tenure issues, compensate affected people, install park infrastructure, hire staff and deposit money in a trust fund to cover recurrent costs. Doing so would constitute good environmental performance, even if the park were adversely affected by climactic events.

With the right combination of targeted and timely incentives, the coming wave of infrastructure development can be done in a way that's economically sound and conserves natural ecosystems.

*This project is made possible by the support of the American People through the United States Agency for International Development (USAID). The views expressed herein are of the author(s) and do not necessarily reflect views of USAID or the United States Government. Thanks also to the Andean Development Corporation (CAF) for supporting a previous version of this work. Thanks to reviewer Oscar Rodriguez.*

*The full paper can be downloaded at: [http://conservation-strategy.org/sites/default/files/field-file/CSF\\_Discussion\\_Paper\\_5\\_Financial\\_Mechanisms\\_0.pdf](http://conservation-strategy.org/sites/default/files/field-file/CSF_Discussion_Paper_5_Financial_Mechanisms_0.pdf)*