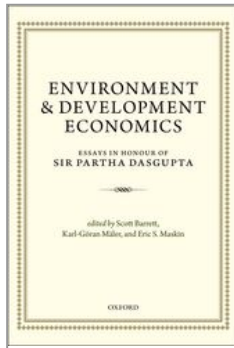

Environment and Development Economics: Essays in Honour of Sir Partha Dasgupta
Scott Barrett, Karl-Göran Mäler, and Eric S. Maskin

Print publication date: 2014
Print ISBN-13: 9780199677856
Published to Oxford Scholarship Online: May 2014
DOI: 10.1093/acprof:oso/9780199677856.001.0001

Comments by Eric Maskin on “An Optimal Contract”

Scott Barrett, Karl-Göran Mäler, Eric S. Maskin

DOI:10.1093/acprof:oso/9780199677856.003.0012

Abstract and Keywords

Positive incentives (rewards) are as important as negative incentives (punishments). Incorporating positive incentives into the analysis would likely make the co-management arrangement more effective and efficient.

Keywords: optimal contract theory, incentives

This is an interesting and well-executed effort to use optimal contract theory for illuminating why the policy of co-managing forest reserves in Benin has failed to stop those forests from being degraded. Co-management—wherein local communities have considerable autonomy in how they use a natural resource (in this case, forests)—had been hailed internationally as an improvement over the conventional “command-and-control” model, in which the government dictates how the resource is to be used. Thus, its failure in Benin has been a shock and a disappointment.

The authors make a good case that the Benin story is not an argument against co-management *per se*, but rather a demonstration of what goes wrong when incentives are not designed properly in such an arrangement. To do that, they first develop a theoretical contract model, consisting of a *principal* (who, in the model’s application to Benin, becomes the government), a *supervisor* (the “hunter’s brotherhood” in the application), and an *agent* (the community using the forests). In the model, the principal hires the supervisor to monitor the agent’s action, which can be either “appropriate” or “inappropriate.” Monitoring is costly, and so the supervisor may only pretend to monitor. But even if he

PRINTED FROM OXFORD SCHOLARSHIP ONLINE (www.oxfordscholarship.com). (c) Copyright Oxford University Press, 2020. All Rights Reserved. An individual user may print out a PDF of a single chapter of a monograph in OSO for personal use.
Subscriber: Harvard University Library; date: 27 February 2020

monitors for real, he may choose not to report the evidence acquired about the agent’s action. If he *does* make a report to the principal and the action was inappropriate, the principal can then impose a fine on the agent (though there is a limit to how high this fine can be).

If the contract between the principal and supervisor is designed optimally, the principal will pay the supervisor a fee contingent on the evidence reported (assuming there is a report). This contingent fee, when properly set, will give the supervisor the incentive to undertake monitoring and to report any evidence discovered. Furthermore, it will dissuade the supervisor from “colluding” with the agent (in a collusive arrangement, the supervisor would agree not to report the agent for acting inappropriately—or perhaps not to monitor at all—in exchange for a bribe). Finally, a well-chosen fine will induce the agent to act appropriately.

(p.269) The authors do a nice job of formulating the model and analyzing it. I have just two comments and questions about their theoretical work:

(1) The model provides for the agent to be fined if she is reported to have acted inappropriately, but it assumes nothing happens to her otherwise. Yet, given that there is a restriction on how severe the fine can be, wouldn’t incentives be more powerful if the agent were also *rewarded* by the principal for a good report, that is, for having acted appropriately? This would give the agent greater motivation to choose the appropriate action and would also reduce the temptation for collusion between the agent and the supervisor.
(2) It is assumed that the agent and supervisor collude by dividing up the fine wH the agent would have paid had the supervisor reported that she acted inappropriately. But this assumption doesn’t seem quite right because if the supervisor chooses not to report the agent, he loses the contingent fee tH he would otherwise get (assuming that he undertakes monitoring). So, the net surplus to be divided appears to be wH – tH, not wH. For collusion to be deterred, I believe it is sufficient that the principal should set wH and tH so that wH ≤ tH (presuming, again, that the supervisor has the incentive to monitor).

As for applying this model to the case of Benin, the authors interpret acting inappropriately as acting *illegally*, for example, poaching. They make the valuable point that a major shortcoming of the incentive contract actually used by Benin’s government was that the supervisor (the hunter’s brotherhood) was rewarded for providing evidence only of inappropriate action and not also of appropriate behavior. This limitation had the perverse property that if the brotherhood had somehow managed to stop all illegal activity, then it would have got paid nothing—and so would have had no compensation for its monitoring.

PRINTED FROM OXFORD SCHOLARSHIP ONLINE (www.oxfordscholarship.com). (c) Copyright Oxford University Press, 2020. All Rights Reserved. An individual user may print out a PDF of a single chapter of a monograph in OSO for personal use.
Subscriber: Harvard University Library; date: 27 February 2020

The authors persuasively argue that this was a serious flaw in contract design. Furthermore, it is one that could easily have been fixed.

Left open in the author’s discussion is the question of how the contract might have been designed to take account of legal but suboptimal actions by the forest-using community. Perhaps the authors will wish to study this issue in future work. If so, it will be interesting to see what they come up with.

PRINTED FROM OXFORD SCHOLARSHIP ONLINE (www.oxfordscholarship.com). (c) Copyright Oxford University Press, 2020. All Rights Reserved. An individual user may print out a PDF of a single chapter of a monograph in OSO for personal use.
Subscriber: Harvard University Library; date: 27 February 2020