Cutting Down Trees for Emergency Cash: Why Access to Credit Can Make PES Programs More Effective

Submitted by Seema Jayachandran on Mon, 2013-05-13 09:49

Seema Jayachandran, Associate Professor of Economics Northwestern University, Affiliated Professor and Health Co-Chair, the Abdul Latif Jameel Poverty Action Lab (J-PAL), writes a follow-up blog on PES programs. Click here to read her previous blog for climate-eval published on April 22, 2013.

Many people in developing countries do not have access to credit. They have a tough time borrowing money to start a small business, buy farm equipment, send their children to school, or weather bad times. Borrowing to start a business often garners more attention, but weathering bad times—being able to make ends meet when income is low or expenses are high—is one of the most important ways that access to credit can improve people's lives in developing countries.

My research in rural western Uganda finds that lack of credit can exacerbate the problem of deforestation. Moreover, lack of credit can limit the effectiveness of Payments for Ecosystem Services (PES) schemes in reducing deforestation. These findings reveal a quite different relationship between credit and deforestation than has been highlighted in other research where access to credit leads to deforestation.

Suppose a family member needs to be taken to the hospital and the household is faced with a large unexpected bill. The household could take out a loan or turn to their savings to cover the expenses. Doing either is a challenge for the Ugandan forest owners in our study, as is typical in many developing countries. Two thirds of those surveyed said that if they had an emergency expense of $50, they would be able to cover less than half the amount from savings. The majority reported that it would be difficult or very difficult for them to obtain a $50 loan from a moneylender or a bank to cover the expense.

Many therefore turn to their forest as a source of emergency cash. When asked why they had cut down trees in the past three years, healthcare costs and other emergency expenditures were among the most cited reasons.

One key implication is that PES programs may be much less effective when emergency cash needs are what trigger tree-cutting. In PES programs, a participant receives a regular payment that continues for as long as he performs the conservation activity. For example, in the program we are studying, if a forest owner keeps his forest intact for a year, he receives a certain amount of money; then the next year, if he continues to keep the forest intact, he receives another payment.

Yet for forest owners in need of emergency cash, the promise of a steady flow of payments won't necessarily be as attractive

as cutting down the trees, even if over time, he would earn more through the PES program. Money in the future is not fungible with money today.

Lack of credit plays a key role here because if the forest owners could borrow, they would have a source of cash other than trees to cover their immediate needs. And if they no longer needed to cut trees for emergency cash, then the PES program, with its slow and steady payouts, might be a much more attractive proposition. We see evidence of this dynamic in the PES program in western Uganda, where savings and credit cooperative societies (SACCOs) are the main type of financial institution. Forest owners who live further from a SACCO— those who have less access to credit—are less likely to participate in the PES program.

Couldn't we solve this problem by paying forest owners more upfront to protect their trees? Suppose a government paid individuals upfront in exchange for a promise not to degrade the forest for two or more years. The problem here is that in many developing countries where deforestation is a problem, legal enforcement is weak; governments would be incapable of reclaiming their money if a forest owner broke his promise and cleared his forest. And even if governments could fine those who violated the contract, it may not be desirable to impose financial penalties on violators who are poor. Hence, there is a good reason that PES programs offer a steady flow of payments in exchange for continual pro-environment behaviors.

Access to credit doesn't pose a major problem for participation in PES programs if forest owners are clearing land to plant crops rather than selling trees to get cash. In this case, the forest owner cultivates the land and, after a bit of time, harvests the land and earns a profit, and then earns a profit year after year. PES incentive payments serve to replace this forgone income. Indeed, in our study we don't see that credit constraints affect PES participation if the forest owner was going to clear land for cultivation.

But it is very often the case that forests are cleared because the timber products are valuable and the owner wants to liquidate these assets. In this case, the opportunity costs of participating in the PES program are born upfront while the benefits of the PES program aren't realized until time has passed. PES programs might be more attractive to forest owners and thus more effective at deterring deforestation if combined with improved access to credit.

Seema Jayachandran is an associate professor of economics and director of the Center for the Study of Development Economics at Northwestern University. She is also a member of the board and co-chair of the Health Program for the Abdul Latif Jameel Poverty Action Lab (J-PAL). Prior to joining the Northwestern faculty, she was an assistant professor of economics at Stanford University and a Robert Wood Johnson Scholar in Health Policy Research at the University of California, Berkeley. She received her doctoral degree in economics from Harvard University; a master's in physics and philosophy from the University of Oxford, where she was a Marshall Scholar; and a bachelor's degree in electrical engineering from MIT. Her research focuses on environmental issues, health, and governance in developing countries.

Seema Jayachandran's blog Log in or register to post comments

Contact Us
1818 H Street NW, Mail Stop P5-500
Washington DC, 20433 USA
Telephone: +1 (202) 473-4054
Fax: +1 (202) 522-1691
email: climate-eval@climate-eval.org