

Cash programs that help the poor can harm natural resources

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Poverty programs throughout the world that give poor families cash for food, education and health needs can have unintended consequences for communities that depend on natural resources, such as fish and trees. That is because the cash infusion that makes the families wealthier can cause a ripple effect in the form of higher demand for, and impact on, the natural resources on which the local economy depends, UC Davis researchers suggest.

"We are not saying the programs don't increase wealth, they just don't increase wealth as much as they could," said James N. Sanchirico, professor of environmental science and policy at UC Davis and a co-author of a study released this week.

"We find that environmental degradation can reduce income benefits of these programs, particularly for individuals whose livelihoods depend directly on natural resources," said lead author Ted E. Gilliland.

Gilliland completed his research for the study as a doctoral student at UC Davis. He now teaches at

Mount Holyoke College Department of Economics. A third co-author is J. Edward Taylor, professor in the Department of Agricultural and Resources Economics at UC Davis.

Governments and international agencies around the world invest large sums of money in poverty programs in an effort to improve outcomes for both households and [local economies](#). Of the approximately one billion people in the world living on less than a dollar a day, most live in rural areas and are dependent on natural resources for food, income, materials and other needs, according to the study. The ten largest cash transfer programs in the world serve a combined 297 million individuals.

Unintended consequences in the local economy

For the study, researchers focused on the municipality of El Nido on the island of Palawan, the Philippines. About 40 percent of the households there had received cash equal to \$240 U.S. dollars, or about 10 percent of their total annual expenditures, per year as part of the program being run by the Philippines government. The community's economy was centered primarily around tourism and a fishery, which both employed and provided an important food source for people living and visiting there.

The program payments were conditioned upon the recipient families meeting goals related to children's school enrollments, children's health and the use of maternal health services. This resulted in money being spent in the community in which the families lived.

The researchers surveyed hundreds of business owners as well as residents and tourists of the area to determine the economic effects. The increased purchasing power for food, which benefited the fisheries and people who worked there, also adversely affected the supply of tuna, mackerel, squid and grouper sourced in the open-access

fishery, which has no restrictions on the fish harvested.

The researchers also looked at whether importing fish provides a solution. The impacts of trade were mixed. Importing fish helps prevent additional local overharvesting, but it also sends money out of the local [economy](#), which results in less local economic stimulus from the program.

The results suggest that cash transfer programs need to be implemented in tandem with environmental policies.

"Designers of these programs that do not think about how natural resources are integrated into local economies and don't manage their natural resources well could be undercutting the effectiveness of these programs," Sanchirico said. "It doesn't mean we should not have these programs, it just means that they could work better."

The study is published in *Proceedings of the National Academy of Sciences*.

More information: Ted E. Gilliland et al., "Environmental impacts of poverty programs: An integrated bioeconomic local economy-wide assessment," *PNAS* (2019).
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