

## Authors

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## PES design in developing countries - Lessons learned for the SuLaMa project in Madagascar

Payments for ecosystem services (PES) schemes are policy instruments developed to manage natural resources such as forests and water in a way that the provision of various ecosystem services from these resources is secured.

### Including distributive goals in PES design?

A hotly debated topic is whether to include distributive goals in the design of PES schemes in addition to their primary objective, which is to provide ecosystem services efficiently. Opponents argue that it is more efficient overall if the goals of halting environmental degradation and reducing poverty are tackled with separate policies. However, others point out that implementing separate policies requires a strong and functioning government, which is lacking in many developing countries. Economists argue that in such cases the preferences of buyers of “ecosystem services”, i.e. those who pay for those services, should count.

To identify the preferences of citizens in developed and developing countries who might pay for the provision of ecosystem services through donations or taxes, we carried out a survey among citizens of the German city of Cottbus and the Malagasy city of Antananarivo. We asked them about their willingness-to-pay to support the preservation of a global biodiversity hotspot – the endangered endemic dry forest in southwest Madagascar – and whether they cared about the distributive effects of the money they donated. We found that respondents preferred a distribution where poor ecosystem service providers received more money than the other providers over an equal distribution of payments to ecosystem service providers. We also found that respondents’ willingness-to-pay for forest conservation was negatively affected if information on the distribution of payments was not available.

### *Recommendation for PES design*

Including distributive goals is recommended if the PES scheme is funded by citizens from developing or developed countries through donations or taxes in a context with weak government and poor potential ES providers.

### Does the timing of payments matter?

In payments for ecosystem services schemes it is common practice to give the payments to the ecosystem service providers at a specific time of year. In some contexts, the choice of the timing of payments could have a significant impact. For instance, in areas where poverty prevails, where the local population relies mostly on subsistence farming to survive, and where there are seasonal fluctuations in food supply, the timing of a payment could be crucial. Indeed, giving payments at a

time where food is ample could be of less value to farmers than giving payments at a time where food is scarce, in particular if saving possibilities are limited due to a lack of financial infrastructure.

In order to test this hypothesis we carried out a survey among households on the Mahafaly plateau, in Southwest Madagascar. On the Mahafaly plateau, there are strong seasonal fluctuations in food supply, which sometimes lead to hunger among the local populations in times of drought, and saving is difficult due to the lack of a banking system. We found that the time when the money is received matters significantly to the local population and on average respondents are happy receiving less money if they receive it in months when they need it most.

#### *Recommendation for PES design*

Paying ecosystem service providers in times of need during a year can lead to higher benefits to them than paying them in times when food is abundant in areas with poor subsistence farmers, seasonally fluctuating food supply, and a lack of saving possibilities. This may enhance the attractiveness of PES schemes.