

EDITORIAL

<http://dx.doi.org/10.4314/mcd.v6i2.2>

Conservation through payments for an ecosystem service?

In his Spotlights for the present issue of Madagascar Conservation & Development, Miguel Pedrono argues that captive propagation of tortoises is but one component of a variety of activities that can contribute to species and habitat conservation. This raises the general question on how conservation could possibly be achieved in the absence of strict conservation regulations that are implemented by a powerful government. The simple answer is: it can not as long as the benefits of bushmeat hunting, trade of natural resources or conversion of “original” habitats into “productive land” exceed the benefits of conservation from the same area. This is not just a problem of countries with poor development indices, but a general problem, such as in Germany, where the conservation progress of the last few decades is largely being ruined by the agricultural conversion of fallow land into maize monocultures. If one of the richest countries on earth is unable to withstand the temptations of making more money out of a piece of land than giving it back to nature, how can we expect any person who lives on subsistence activities to leave a piece of land alone if he can get more money out of it by using it? The high flying discussion and argumentation of “ecosystem functions” and “ecosystem services” are being ridiculed by the developments in the industrialized nations.

The problem uniting rich and poor countries alike simply is, that “ecosystem functions and services” of a pristine area are of value primarily on a global level (clean air, global evaporation and precipitation, CO₂ storage), while it is of little value to a farmer who is struggling to survive today. For agricultural land,



Scaphiophryne gottlebei (photo: Harald Schütz). The international trade with herps holds substantial economic profits but would be difficult to control. In contrast to amphibians and other reptiles, tortoises could be marked individually and followed through the market chain from the forest of origin to their final destination.

the reverse is true. Madagascar’s land tortoises could be turned into one of the rare examples where it pays more to keep the natural forest intact than turning it into a manioc field, if only the people were allowed to use the land without some of the restrictions imposed upon them by conservation regulations. The radiated tortoise is listed as Critically Endangered and thus can not be traded legally. Yet, illegal trade is substantial. One tortoise sells for about 200 € in Asian and about 4,000 € in the European pet markets (Todd 2011), with an estimated number of about 45,000 animals taken from the wild and traded annually (O’Brien et al. 2003). According to a survey by in 2011 (SuLaMa 2011), about two pirogues with 50 – 80 tortoises each, leave from the coast of a small community west of Tsimanampetsotsa National Park per week. The local revenue from these animals collected for the pet trade is next to nothing.

If the trade of these (and possibly other) tortoises would be legalized, these tortoises would offer a unique opportunity to generate income from the natural forest for the local communities. Each community could be allowed to sell a defined number of tortoises that is proportional to the community forest area. The animals could be sold through some controlling organization (such as Madagascar National Parks, NGO or a “Social enterprise”, i.e., an organization that applies business strategies within a non-profit framework) directly to the international pet trade at a price that avoids the risks and dumping price of the illegal market chain. The trade of tortoises could be controlled more easily than the trade of smaller reptiles and amphibians which also have a high potential to generate income for the local communities (Raselimanana 2003). In contrast to the smaller species, ivory or rosewood, each tortoise taken from the forest could be marked for life with an implanted transponder, i.e. a microchip with a unique number that can be read with a scanner like the barcode in a supermarket. Transponder numbers can be assigned to be used by specific villages, registered and even displayed on the internet so that the trade is fully transparent for everybody and can be checked even by the final customer. This could provide sustained income for the local communities that maintain their forest. Each tortoise could be sold for a fairly high price as legal marketing would avoid various middlemen. In comparison, one hectare of cleared forest yields between 2 and 20 oxcarts of manioc with a harvest declining rapidly over the years. One oxcart of manioc sells for about 11 €. Thus, a sustained revenue of about 100 € per hectare derived from forest tortoises, could exceed the income from agriculture.

The questions that remain are on how revenue from the tortoises would be distributed within the community and how sabotage from villages without forests could be avoided. This may be a major hurdle, but the tortoise trade could set an example for an “ecosystem service” of the dry spiny forest that pays for the conservation of this ecosystem by itself rather than by funding for conservation outcomes defined by people in other countries (Ferraro and Kiss 2002) and possibly subject to political or institutional uncertainties.

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VOLUME 6	ISSUE 2	DECEMBER 2011
MADAGASCAR  CONSERVATION & DEVELOPMENT		
<small>INVESTING FOR A SUSTAINABLE NATURAL ENVIRONMENT FOR FUTURE GENERATIONS OF HUMANS, ANIMALS AND PLANTS OF MADAGASCAR</small>		
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Promoting African Publishing and Education
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