

**Newsletter 4: July 2015** [p4ges](#) is a three year project involving a consortium of eleven institutions in the UK, Madagascar, the USA, the Netherlands and Switzerland. Our aim is to influence the development and implementation of international ecosystem service payment schemes in the interests of poverty alleviation. The project is focused in the eastern rainforests of Madagascar in a REDD+ pilot project known as the Corridor Ankeniheny Zahamena. p4ges is funded by [espa](#) (Ecosystem Services for Poverty Alleviation). This document is a brief update aimed at our national and international advisory committees to keep them informed of the project's progress. Regular updates are also posted on our [website](#).

**Progress in research**

**Landscape scale fieldwork on carbon, biodiversity, hydrology and wild harvested products:** Most of the field work in Zones of Interest (ZOI) 2 (Andasibe area in southern CAZ), 3 (Anjamana area in eastern CAZ) and 4 (Didy area to the west of CAZ) is complete (see [here](#) for a blog from the carbon team). Now is an intense period for lab work (analysing soil samples, sorting and identifying insects, as well as molecular work on tissue samples from some reptiles and amphibian species) and preliminary data analysis. The ultimate aim of this work is to demonstrate the impacts of avoiding deforestation (or forest restoration) on ecosystem services such as carbon storage and sequestration, hydrological functioning and biodiversity).

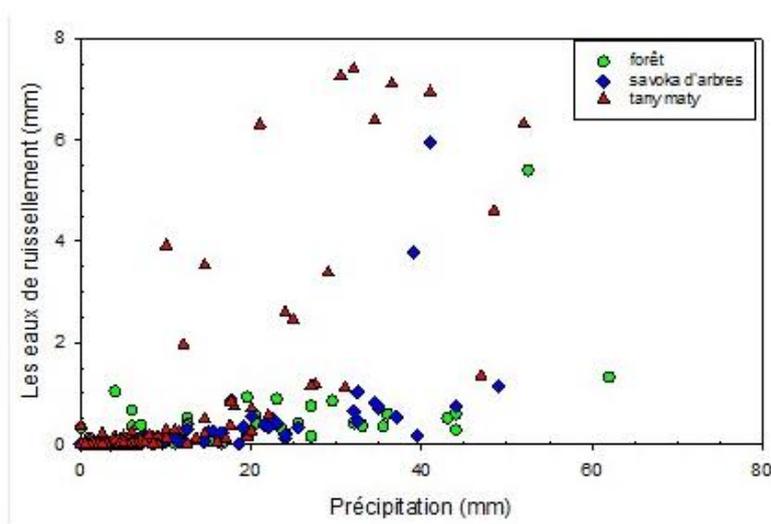
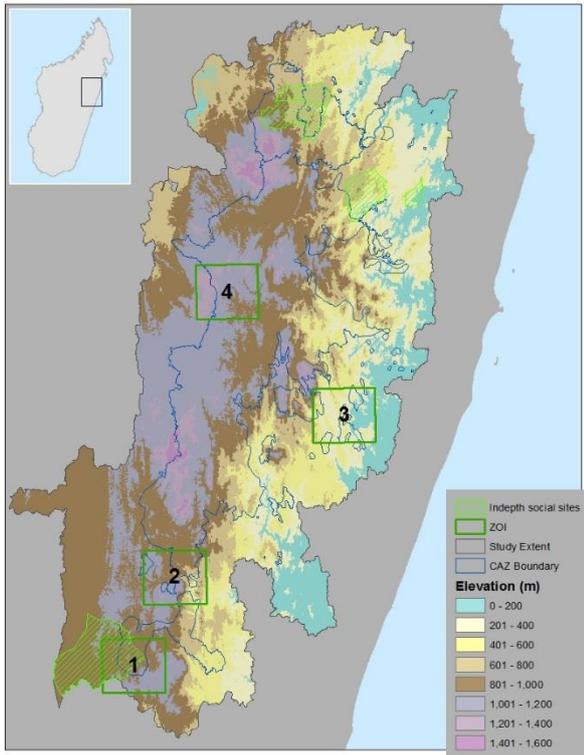


Figure 1: preliminary analysis of overland flow data from hydrological plots.

**Intense plot-scale hydrological work:** In addition to the landscape scale hydrological research, the hydrological team have intensely instrumented three plots under different land uses. Preliminary analysis clearly shows the extent to which land use cover affects soil infiltration: under soil, rainfall seeps into the soil but in degraded land 'tany maty' it flows rapidly over the soil leading to erosion, flooding and reduced dry season flows (see fig 1). Read more about the hydrological plot scale [here](#) or watch a [short video](#).



**In depth socio-economic research:** The intense field work aiming to quantify the opportunity cost of conservation restrictions in our four carefully selected 'in-depth' sites is nearly complete. The household surveys and intensive agricultural surveys with a sub-sample are complete but the wild product use surveys (with the same sub-sample as the agricultural surveys) are ongoing in three sites. We are now focusing heavily on data checking, cleaning and preliminary analysis. This work has been fascinating but very challenging for the team due to the remote areas where we worked. Read more about access to the field sites [here](#). The team looking at institutional aspects of how land use decisions are made in the in-depth sites, and how this affects optimal design of external projects like Payments for Ecosystem Services schemes is ongoing. Please read more about recent field work [here](#).

**The 'benefit survey':** There is a lot of discussion in international climate policy about how best to

ensure that the benefits from carbon payments are distributed. Madagascar has a plan for how funds will be distributed in terms of how much will go to the government, how much to cover administration and how much will go to local communities. However there is still a lot of uncertainty in Madagascar, and in other countries with similar context, as to how funds available locally can be best spent to ensure that those who should benefit do indeed benefit. We are conducting field work to look at the experience of local people from a range of different types of micro-projects to inform the design of future schemes to distribute benefits from REDD. This field work is a little behind schedule but will start in August 2015.

**Remote sensing and modelling:** We recently had the first paper linked to the p4ges project published. The work, lead authored by Ranaivo Rasolofoson, looks at how effective Community Forest Management has been at slowing deforestation in Madagascar. The paper, published in [Biological Conservation](#), shows limited positive impact of this approach.

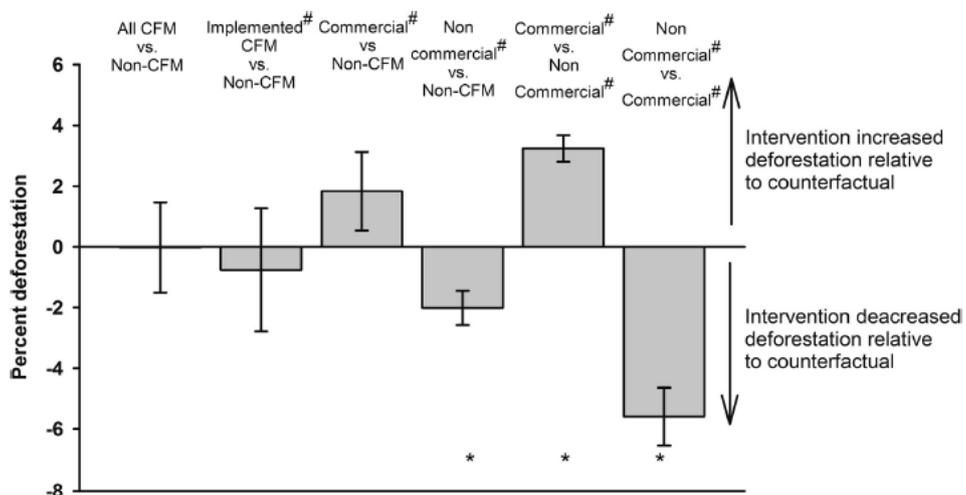


Fig. 2. Differences in percent deforestation between intervention and counterfactual (#CFM where we have information to suggest implementation, \* significant at  $p < 0.001$ , error bars: standard errors for post-matching estimates that are calculated using a variance formula that is robust to heteroskedasticity and adjusts the variance estimator for repeated matches among control units (Abadie and Imbens, 2006).

Other remote sensing activities have included the interpretation and classification of very high resolution imagery to aid in (1) fieldwork reconnaissance work, and (2) field site land use classification. The classifications for ZOI 2, 3, and 4 are now being refined based on a set of previously-defined land use types, and validated using field information collected by the numerous field teams. Derived remote sensing products capturing recent deforestation are being used to model potential future deforestation patterns and associated emissions, based on the carbon field data. Derived remote sensing products are also being used to assess the impacts of previously implemented community benefit projects on deforestation-related activities. As part of this, a spatially-explicit database of these activities, has been developed and will be used to inform this analysis.

### **Progress in impact activities**

#### **Relationship with stakeholders at**

**local scale:** The research has continued intensely over the last six months and as previously reported we depend greatly on good relationships with local communities. In every site we work we employ local people as research assistants. They help us with everything from measuring agricultural plots, monitoring the hydrological plots, digging pits for soil samples and helping the biodiversity team with their surveys. These local assistants have been vital to completing the



research but the relationships have also been an invaluable opportunity to demystify the research and build lines of communication with the local community for later sharing the results.



In March 2015 we welcomed 30 regional stakeholders (including representatives of relevant ministries, community associations and a local mayor) to visit our hydrological research plots in Andasibe. We explained the research we are conducting on the links between water and land use and presented preliminary results. This was very well received and generated a lot of discussion. A member of the community association Mitsinjo said “Thanks for the presentation, I can see that the complicated research that you are carrying out can be explained in

a simple way and it tell us about the bad and good effects of the land uses on the stream flow”. Read more [here](#).

### Relationships with stakeholders at the national scale:

As a project we have always taken ethical aspects of our research extremely seriously. We went through a full ethical screening at the start of the project to identify potential ethical issues and ran ethics training for all the field teams. One issue, which we debated long and hard in the project, was whether, and how, we should compensate local people selected to participate in our social surveys. There



is no right and wrong answer to the question of compensation but we produced this short [video](#) aimed at social researchers in Madagascar. The aim was to show how we addressed the thorny issue of compensation and to generate debate among Malagasy researchers.

In June 2015 one of the p4ges institutions, Laboratoire de Radio-Isotopes, hosted a high profile event titled: “[Soil, Forests and Agriculture: what challenges are faced from climate change in Madagascar?](#)” (funded by the French Embassy, ESPA and some projects LRI leads). The event was accredited as a parallel event of the United National Framework Convention on Climate Change’s (UNFCC) scientific meeting ‘[Our common Future under Climate Change](#)’ (held in July in Paris in preparation for the

conference of the parties of the UNFCC meeting in December). More than 90 people attended

(researchers, policy makers and civil society groups) and work from the p4ges project was among other presented. The following day, at a



event to mark the 50 years of LRI, p4ges researchers presented posters and hand-on demonstrations of some of their research.

**Relationship with stakeholders at the international level:** We held meetings with three of our international advisors in March 2015 and gave them information on the project’s progress and had some useful comments and suggestions. Results from the project have been presented at a number of scientific meetings. We made a presentation on our work looking at the challenges of designing social safeguards for REDD+ at the [Our Common Future under Climate Change](#) meeting (July in Paris). We are also working with other partners involved in REDD+ in Madagascar to investigate opportunities to present project results at the COP meeting of the UNFCC in Paris in December.

Please look at our bilingual [website](#) regularly for updates. If you have any questions about the project please don’t hesitate to get in touch and we will ensure your enquiry goes to the most suitable person ([info@p4ges.org](mailto:info@p4ges.org))