

Newsletter 1: January 2014 [p4ges](http://p4ges.org) is a three year project involving a consortium of ten institutions in the UK, Madagascar, the USA and the Netherlands. Our aim is to influence the development and implementation of international ecosystem service payment schemes in the interests of poverty alleviation. p4ges is funded by [espa](http://espa.org) (Ecosystem Services for Poverty Alleviation).

There has been a recent explosion of interest in market mechanisms to capture global ecosystem service values. Their effect on poverty is not easily predicted and depends on a) the structure and distribution of payments and b) how land-use changes driven by the payments influence the supply of locally important ecosystem services to poor people.

Our central research question is: How can international ecosystem service payment schemes (specifically for carbon sequestration/storage and biodiversity conservation) most effectively reduce poverty in low income countries, given bio-physical, economic and political realities?

Major land-use changes which international payments are incentivizing include: reduced deforestation, targeted restoration or reforestation (through fire and grazing management or replanting) and changes in rules governing access to harvesting wild products. Welfare impacts on the poor will be different under these different approaches, and they vary in their potential for producing global benefits. **Our central objectives are...**

1. To understand effects on ecosystem service flows, to local and global beneficiaries, of the land-use changes incentivized under alternative PES approaches, and the spatial and temporal trade-offs in these flows;
2. To estimate the magnitude and distribution of net local welfare impacts from the range of PES approaches (incorporating both the effects of payments and land-use change) and the likely influence of different local and regional institutional structures;
3. To fully quantify the land-use changes and the payments distributed in an existing payment scheme; and
4. To develop effective recommendations for improved international PES schemes that maximise their potential for delivering poverty alleviation, given biophysical, economic and political realities.

Progress so far:

1) Project launched in Madagascar

On the 8th November the project was launched by the director general for forests of the Malagasy Ministry of Environment (Jean-Claude Rabemanantsoa) and the director general for research from the Ministry of Research and Higher Education (Claudine Ramiarison) to more than 100 people. Dr Julia Jones, Julie Razafimanahaka and Prof Bruno Ramamonjisoa introduced the aims and objectives of the [p4ges](http://p4ges.org) project to an audience of government, NGO and civil society groups interested in environment and poverty issues. The audience asked searching questions and gave advice to the research team about how we could ensure long term impact. A main message was the importance of communicating results within Madagascar through publishing in open access journals, and communicating in language and ways those policy makers and local communities can understand. The meeting was closed by the British Ambassador to Madagascar Tim Smart.



2) Inception workshop (Andasibe)

From 11th to 13th November 2013, 24 members of the project team got together for a three day inception workshop. The project was a success and



delivered on the objectives

which were to:

a) ensure all elements of the project know each other personally and understand each other's research and how it fits together, b) to have a common set of scenarios and sampling strategy agreed, c) to ensure we all understand our ethical obligations, d) to ensure we are coordinated in the way



we interact with villages, e) to develop a plan to ensure effective impact.

3) National and international advisory committees formed

To help ensure we can deliver in terms of impact we have invited experts from the national and international policy arena to join our projects as advisors. The role of both committees is to help us identify opportunities to have an effective impact and act as ambassadors for the project's results as appropriate. The national advisory group had its first meeting after the project launch on the 8th November 2013 and will meet again in early February 2014. The international advisory group will meet remotely in February or March 2014.

International advisory committee		National advisory committee	
Dr. Joanna Durbin	Climate, Community and Biodiversity Alliance , Washington, USA	Dimby Razafimpahanana	Wildlife Conservation Society
Dr. Eva (Lini) Wollenberg	Research Program on Climate Change, Agriculture and Food Security (CCAFS)	Andriamandranto Ravoahangy	ASITY Madagascar (Birdlife affiliate)
Dr. Pushpam Kumar	United Nations Environment Programme, Kenya	Herizo Andrianandrasana	Durrell Wildlife Conservation Trust
Dr. Peter Minang	World Agroforestry Centre, Kenya	Mamitiana Andriamanjato	Ministry of Environment and Forests
		Tiana Ramahaleo	Worldwide Fund for Nature
		Jean Roger Rakotorijaona	Office National our l'Environnement
		Claudine Ramiarison	Ministry of Research and Higher Education
		Rija Ranaivoarison	Wealth Accounting and Valuation of Ecosystem Services
		Jean Noel	MITSINJO (a community-based NGO in the study region)
		Ndriamiary	
		Vonjhasina	Vice-primature aménagement du territoire et decentralisation
		Rabetokotany	

4) Fieldwork planned to start late January 2014

There have been some delays in getting research permits. We have now been issued permits for CAZ excluding MNP areas (as of 14th January) and are working closely with MNP to get approval for work in their sites. We have ethical clearance (under Bangor University's procedures). All empirical work packages hope to start work by early February (permits allowing).

5) Website launched (www.p4ges.org)

We are very keen to ensure our project is transparent and interested parties can quickly get information on our research (and find any outputs). We have developed a comprehensive website with regular blogs and updates.

Appendix

Team: The project involves 18 PIs and Co-PIs from 10 institutions. In addition 4 students are working in affiliation with the project (independently funded) and 20 other researchers or assistants are working full or part time. For a full list please see 'our team' on the website (www.p4ges.org).

Detailed research questions: The project is made up of a series of 12 workpackages (see Fig 1). Each empirical research workpackage has developed a set of detailed research questions which fill knowledge gaps surrounding the impacts of land use change on ecosystem services and the optimum design of PES to ensure it delivers potential poverty alleviation benefits.

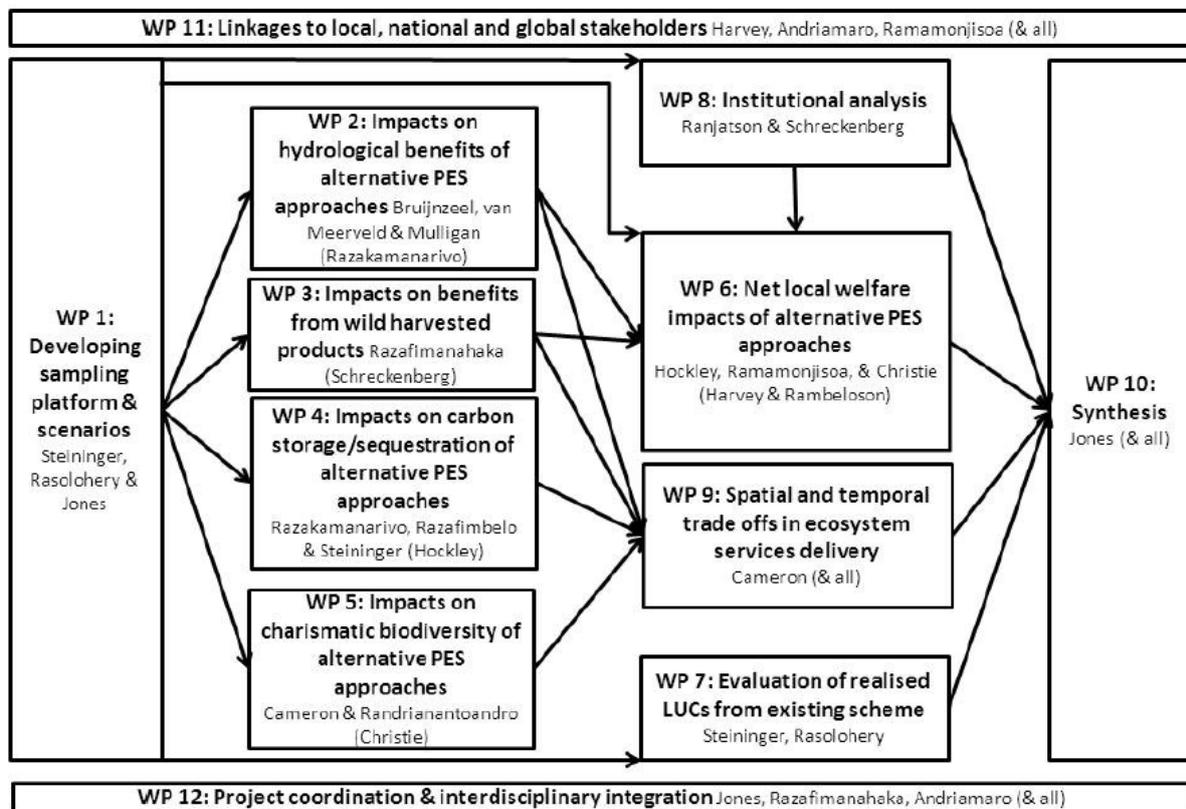


Fig1: The workpackage structure of the p4ges project.

Research questions (ordered by objective)

Objective	WP	Question
To understand effects on ecosystem service flows, to local and global beneficiaries, of the land-use changes incentivized under alternative PES approaches, and	2	How do infiltration rates, hydraulic conductivity, and preferential flow pathways change after reforestation/land abandonment?
	2	How do interception and transpiration losses change with forest age/structure/biomass
	2	How do the main streamflow generating processes change along a chronosequence of reforestation sites (ratio overland flow subsurface flow, water quality, baseflow)

the spatial and temporal trade-offs in these flows;	2/6	What are the downstream hydrological benefits of forest protection/regeneration (with Hydrology WP, probably concentrating on dry season flows)?	
	3	What role does non-forest, fallow and land being restored play in the provision of wild-harvested products?	
	3	What are the impacts of deforestation on valued aquatic products?	
	4	What are the average, and variability in, biomass levels of mature forest in lower-elevation sites (~600m) compared to higher-elevation sites (~900) in the CAZ study area, how do they compare to published findings from other Malagasy humid forests, and how does the proportion of root biomass vary?	
	4	What are the average, and variability in, soil-carbon levels of mature forest in lower-elevation sites (~600m) compared to higher-elevation sites (~900)?	
	4	What is the rate of biomass accumulation in regrowth of fallows in degraded land (deforested since 1990) vs. non-degraded (deforested since 2005 or later) at different altitudes?	
	4	What may be the overall CO2 emissions from deforestation in the CAZ study area in the future given policy assumptions?	
	5	How does the biodiversity value of a site (focusing on amphibians/reptiles and lemurs) vary through community succession from agricultural fallow through reforestation to closed canopy forest?	
	5	How could reforestation be optimized spatially and temporally for biodiversity (inverts and verts) conservation (NB invertebrates will be worked on by an affiliated student-not funded by espa).	
	9	How do yields of ecosystem services vary through forest succession (including comparisons of local, global and gross yields)	
	9	What is the timing and trajectory of restoration of ecological functioning (synthesis paper on the timing and trajectory of change of hydrological, biodiversity and carbon restoration after land abandonment - what is quickly restored, what slowly - is restoration possible at all?)	
	To estimate the magnitude and distribution of net local welfare impacts from the range of PES approaches (incorporating both the effects of payments and land-use change) and the likely influence of different local and	6	What is the magnitude and distribution of net-costs of forest protection under PES (compensated) or traditional protected areas (not compensated) relative to counterfactuals of no protection
		6	How do the opportunity cost estimates compare with World Bank safeguards estimates and distribution of benefits?
6		What are the transaction costs (especially operating costs) of delivering community benefits through different approaches (conservation agreements, Transfert de Gestion, Small grants - including Nodes, Safeguards payments, Project approach)	
6		What is the nature and distribution of livelihood benefits achieved by different interventions (priority: conservation agreements and nodes, subject to resources others could be included. Note Safeguards will be	

regional institutional structures;		covered in WP6a work)
	8	Understanding the interaction of formal and informal institutions in improving the social outcomes of community forestry in Madagascar
	8	How are the benefits and costs of PES schemes mediated by institutions at various levels, from community-level resource management committees to regional and international intermediary institutions (both private and public) which broker the relationship between service buyers and providers or provide essential services such as monitoring.
	8	What are the impacts the introduction of new PES schemes with their attendant land-use change requirements and new income flows on existing natural resource governance institutions.
	8	What do local people know about PES schemes and how does their understanding of the purpose and implementation of schemes differ from that of PES buyers or scheme managers.
To fully quantify the land-use changes and the payments distributed in an existing payment scheme;	6/7	What has been the relative effectiveness of different types of interventions in terms of reducing deforestation?
	7	What have been the overall CO2 emissions from deforestation in the CAZ study area during the study period (10-20y), and how much may have been offset by the standing biomass of fallows in the study area?
	7	What have been the overall CO2 emissions among sub-areas that are associated with different interventions over the past decade?
To develop effective recommendations for improved international PES schemes that maximise their potential for delivering poverty alleviation, given biophysical, economic and political realities.	10	What are the combined welfare outcomes of different approaches for investment in PES in eastern Madagascar (incorporating impacts on local ESs and benefit distribution)?
	10	What recommendations can be made for the design of improved international ecosystem service payment schemes that maximise their potential for delivering poverty alleviation given bio-physical, social and political realities?
Methods development	5	Refining species distribution models using habitat dependence (methods paper)
	6	How can methods for valuation of ecosystem services in a rural, developing country context be improved (choice experiments vs revealed preference data, seasonal biases, information effects etc)?
	4	Are there spectral distinctions in high-resolution optical imagery (SPOT, 5m) that allow detection of different stages of fallow regrowth, via relationships to structural parameters such as canopy height and biomass?