SalvaTerra	COORDINATION OF THE LULUCF SECTOR GREENHOUSE GASES INVENTORY	Ref. 8

Expert(s)	Country	Volume (md)	Amount (€)	Beneficiary	Funding	Start date	End date	Partner(s)	Reference
O. Bouyer	French Guiana *from metropolitan France*	3 years	n/a. Public funds	French Govt.	French Govt.	June 2006	June 2009	ONF, CIRAD, IFN, CNRS, CCR, CNES, IRD, CITEPA	Brice.lalonde@wanadoo.fr

Detailed description of the project	Services provided
France is composed of a metropolitan area, four overseas departments (the Islands of Réunion, Guadeloupe, Martinique, and French Guiana) as well as several overseas territoriese a more autonomous status). Theses latter territories are: Saint Pierre and Miquelon, Saint Martin, Saint Barthélemy, French Polynesia, Mayotte, New Caledonia, Wallis and Futuna, the French Southern and Antarctic Lands, the Scattered Islands, and Clipperton. Among the participating countries of the Kyoto commitment (see Annex 1), France is the only one with a very large portion of rainforest (8 million hectares in French Guiana), for which it has an obligation to report emissions/removals of greenhouse gas (GHG) emissions for the first period of the Kyoto Protocol (2008-2012). As a comprehensive forest inventory had never been carried out in French Guiana, French scientific and technical expertise had to be quickly mobilized in 2006 to work on two areas: - The estimation of emission factors, expressed in teCO2/ha/year, via the development of ad hoc allometric equations to estimate carbon stocks in forests (carbon in above-ground and below-ground biomasses with dead wood, litter and soil carbon being approximated) following different forest strata; - The estimation of land use changes, expressed in ha/year, using the remote sensing of changes in forest cover. The first area involved the National State Forest Agency (ONF), the International Centre for Agricultural Research for Development (CIRAD), the National Centre for Scientific Research (CNRS). The second involved the Research Institute for Development (IRD), the National Forest Inventory (IFN), the National Centre for Space Study (CNES), the Inter-professional Technical Centre for the Study of Atmospheric Pollution (CITEPA), and the joint Research Centre of the European Union (EU-JRC).	The task of estimating the emission factors was carried out in 2005 by the ONF and led to the establishment of ad hoc dendrometric data for French Guiana. The expert coordinated the second axis, both from a financing point of view (mobilising funding to meet the budget needs for the purchase and processing of satellite images) and organizational point of view (ensuring delivery of the CNES images, and their processing by the IFN according to the LULUCF inventories guidelines of the Intergovernmental Experts Panel on Climate Change (IPCC), and finally the crossing by the CITEPA of these land use changes with emission factors in order to calculate the GHG fluxes of the Guyanese forest). In order to optimize the cost/precision ratio, it was decided to create an ad hoc methodology to monitor changes in forest cover. Rather than a comprehensive analysis of surfaces ("wall-to-wall" approach), the evolution of forest cover was monitored on a 15,000 point stratified sample, between 1990 and 2006 (test inventory) and 2008 (official inventory) using SPOT 2, 4 and 5 images of medium resolution (20-30 m). This method is simple, robust and well adapted to the conditions of French Guiana (significant cloud cover, difficult field verification, scattered patches of deforestation, etc.). The accuracy of the method was demonstrated by the JRC who arrived at the same result, after recalculating using another sampling and other images (Landsat). The methodology has also been validated in a control of the French GHG inventory, by UNFCCC accredited reviewers. In terms of results, the 2006 test inventory had concluded that there was minimal deforestation in Guyana (-0.03%/year), which had, however, increased slightly in the official 2008 inventory. Moreover, beyond the communication of results to the Climate Convention, this work has contributed to the advancement of practical discussions on forest carbon inventories in tropical countries, a major challenge for REDD+.