United States Agency for International Development
Cooperative Agreement No. EEM-A-00-06-00024-00

USAID
FROM THE AMERICAN PEOPLE

Global Climate Change:
Carbon Reporting Initiative

February 2011

Submitted by:
Nancy Harris, Project Coordinator
Winrock International
Ecosystem Services Unit
2121 Crystal Drive, Suite 500
Arlington, VA 22202
Email: nharris@winrock.org

Progress Report for Year 5

February 2011

WINROCK INTERNATIONAL

Putting Ideas to Work

1. Background

The main objective of the proposed work is to expand the ability of USAID to report global climate change impacts for forest-based activities by developing and implementing a set of innovative tools with high scientific integrity. USAID-sponsored land use and forest land management activities worldwide have direct, significant, and positive impacts on the climate. Although the impact of these activities is real, projects have not had the ability or tools to translate this impact into reportable, quantifiable measures of avoided emissions or sequestered carbon.

Under Year 5 of the cooperative agreement, we will continue to improve the carbon calculator tool by adding in updated data sets, adding in extra calculator modules, improving the user interface, allowing for different levels of control by administrators, improving the reporting capability across all projects entered into calculator, developing a stand-alone planning tool that can estimate emission reductions or enhancement of removals of carbon over multiple years, and implementing training workshops and training videos. The tool will continue to be simple and easy to use, and will allow the GCC Team and local missions and other stakeholders around the world to increase confidence in the integrity of results.

2. Activities for Year 5

Note: Progress on each task is reported in ***bold, italic, blue*** text below.

Task 1: Develop a detailed workplan for year 5

The final Year 5 workplan and budget were submitted to Patrick Smith on January 24, 2011.

Task 2. Addition of features to existing calculator.

In Year 5, the existing calculator will be modified to add features that will improve the functionality of the tools. These modifications will include:

a. Add in FY2011-FY2015 as an option for reporting. ***Future fiscal years have been added into the current version of the calculator.***
b. Add documentation links so that they are available on all pages of each calculator. ***This task will be completed after the re-design of the calculator's interface (described in Task 3 below).***
c. Add 'forgot username and password' option to login screen so that users can provide their email address and they are automatically sent their registration information. ***This task will be completed after the re-design of the calculator's interface (described in Task 3 below).***
d. Add in 'fuelwood collection' as a Level B 'protection against' option in the Forest Protection calculator. ***Based on discussions with Patrick Smith on February 17, 2011, the workplan has been modified to exclude this task. This was done because the current version of the calculator already includes an option to report offtake for community logging, so this function can also be used to include offtake from fuelwood collection. The wording in the forest protection calculator will be modified to reflect this change. Removing this task was part of an effort to free up resources to allow an improvement upon the calculator's interface as described in Task 3 below.***
e. Update summary page to display separation of live biomass vs. soil. ***This task will be completed after the restructuring of the calculator's interface (described in Task 3 below).***

In addition to the items above, an additional task has involved user management, which is a function that was added into the existing calculator during Year 4. After registering, a user can enter and save project information, but cannot access it until a group administrator has added the user/project to a specific group. This function was built in to allow USAID staff to see and

modify only the projects that they are involved with. Although the feature is functional, users had not been assigned into groups and therefore users reporting for FY2010 could not view the data they had entered previously.

To remedy this situation, Winrock is working with Ashley King and Evan Notman at USAID to assign users into groups, which are organized by USAID region and/or country. However, the majority of registered users are not USAID Mission staff but are rather USAID subcontractors or partners. Therefore, project descriptions as well as the geographic information entered about projects by specific users are being used to assign users into regional groups. This is a work in progress and should be completed by the end of March 2011.

Products and dates

1. Add in FY2011-FY2015 as an option for reporting: January 2011
2. Add documentation links so they are available on all pages of each calculator: January 2011
3. Add 'forgot username and password' option; January 2011
4. Add in 'fuelwood collection' as a Level B option; February 2011
5. Update summary page to display separation of live biomass vs. soil; February 2011

Implementation and staffing

Nancy Harris will coordinate this task with DRG.

Task 3: Allow two or more projects of the same type to be entered for the same administrative unit

The tool will be re-structured to improve the functionality and interface of the existing calculator. This will include a programmed solution that allows users to derive carbon benefits for one project that is implementing multiple activities of the same type in the same administrative unit.

Task 3 involves a major paradigm switch in the way the application works, but will be beneficial in the long run and will result in a much cleaner user interface. Although this task requires significant resources to implement, the calculator will function more efficiently and, from a maintenance perspective, the effort and cost to modify calculators in the future will be reduced. Future implementation will also be facilitated. Because the database has evolved over the past five years as the calculator has been developed, the user interface is no longer ideal and would benefit from a redesign to better support USAID's requirements. This re-design was discussed with and approved by Patrick Smith on February 17, 2011 during a call with Nancy Harris.

The current user interface includes a four-step process. Users are required to enter information about admin units (Step 1) and project activities (Step 2) all up front, after which they are requested to enter data about every admin unit/project activity in one step (Step 3). After data are entered, results are generated (Step 4). The current structure of the calculator likely results frequently in timed-out sessions because of the requirement to enter too much information all at once in Step 3.

The planned change will allow users to enter information in a more piecemeal fashion, where a single project type and admin unit are selected, data are entered for that particular admin unit/activity, and information is saved. The user will then be given the opportunity to move on and add additional admin units and/or project activities. In this way, the data entry is divided into manageable stages (with data saved in between). An additional benefit to the new interface design is that users will be allowed to enter multiple project activities of the same type for a single admininstrative unit if desired (something that the old interface did not allow).

The current interface uses a 'shopping cart' approach, where the user is encouraged to select all of the admin units and project types up front, whereas the new interface applies more of a 'walking down the aisle and grabbing what you need' approach, whereby the user can pick a project type/admin unit, enter data about it, save the information, and then move on and keep browsing for another admin unit/project type. The benefit of the 'shopping cart' approach was that a user could see a summary of everything that had been added; this function will be maintained in the new interface as a summary dashboard, similar to the user management interface that is already built into the current version of the calculator.

The new planning tool will be designed in a similar way to the new calculator interface, so that the tools will complement each other.

Products and dates

1. Programmed solution incorporated into calculator; February 2011 – ***changed to April 2011***
2. Updated user's manual; May 2011

Implementation and Staffing

Nancy Harris will coordinate this task with DRG.

Task 4: Develop project planning tool

During Year 3, several presentations were given to DC-based organizations on the details of the Forest Carbon Calculator. At these meetings and within USAID, there was considerable interest in a "planning tool" to help Mission staff evaluate which project types are most beneficial from a carbon perspective on both short and long timeframes. In December 2010, another workshop was held to solicit feedback on the structure and design of the planning tool. Based on partner feedback, the planning tool will produce estimates of up to 30 year projections, rather than limiting estimates to annual benefits (as in the current version of the tool) so that users can make strategic decisions about which regions, and which activities within those regions, might have the potential to generate the largest carbon benefits.

The specific steps are:

1. Develop draft planning tool to estimate benefits for a period of 30 years that has a scenario-based, user-friendly interface. ***A draft planning tool, including wireframe/mockup, has been designed and discussed with DRG. A programmed version of the planning tool is currently underway.***
2. Re-engage key stakeholders to solicit feedback on draft planning tool to allow modifications as necessary. ***This workshop is tentatively scheduled for late April/early May 2011.***
3. Incorporate into the planning tool indicators of threat of land use change and potential for alternative land uses that relate to other sectors – could include data layers related to infrastructure, population density, crop suitability, etc. ***This sub-task will be included after the rest of the planning tool has been finalized.***

Products and dates

1. Draft planning tool developed and fully functional; April 2011
2. Draft guidance document for planning tool; April 2011
3. Stakeholder workshop; May 2011
4. Final documentation and design of tool after stakeholder input; September 2011

Implementation and Staffing

Nancy Harris will coordinate this task with DRG. Sandra Brown will oversee the work.

Task 5: Create new agricultural land management and grazing land management tools

During year 5, the calculator will be expanded to include **agricultural and grazing activities** that increase soil carbon stocks and reduce emissions of non-CO_2 greenhouse gases.

The specific steps are:

1. Re-analyze the USAID project portfolio to assess what potential projects might be eligible under the agriculture and grazing land management calculator. ***No progress to report.***
2. Review 2006 IPCC Guidelines for Agriculture, Forestry and Other Land Use (IPCC AFOLU) for calculating soil GHG emissions. ***No progress to report.***
3. Engage original developers of the IPCC soil default values to fill gaps in the data set and update values with the latest scientific knowledge. ***No progress to report.***
4. Develop methods for estimating reductions in CO_2, N_2O and CH_4 (expressed in CO_2 equivalents) from changing nutrient management practices. ***No progress to report.***
5. Produce documentation that describes the science behind the agricultural management tool, the equations used to estimate emissions expressed in original units as well as in CO_2 equivalents, and the sources of default data. ***No progress to report.***
6. Submit documentation and calculator to at least two experts in emissions from agricultural soils and practices. Winrock will prepare a brief summary of the reviews (names of reviewers, comments/issues raised, and their resolution). ***No progress to report.***

Products and dates

1. Draft version of the agricultural and grazing tools; May 2011
2. Draft documentation on details of agriculture and grazing tool: May 2011
3. Final, fully functional version; September 2011
4. Final documentation after tool has been peer reviewed; September 2011

Implementation and Staffing

Tim Pearson will coordinate this task. Alex Grais will be the technical lead with additional assistance from the rest of the team. Sandra Brown will oversee the work.

Task 6: Add uncertainty values to summary page

The current version of the calculator derives a carbon benefit as a single value on the summary page, which is useful on its own but would be supplemented by an indication of its uncertainty. During Year 5, uncertainty will be built into the calculator equations.

The specific steps are:

1. Develop draft uncertainty default values for input parameters
2. Use IPCC error propagation techniques and/or Monte Carlo simulations to derive uncertainty values
3. Display uncertainty values on summary page

Based on discussions with Patrick Smith on February 17, 2011, the workplan has been modified to alter this task. This was done to free up resources that will allow an improvement to the calculator's interface as described in Task 3 above. Rather than developing quantitative uncertainty values in the tool, a guidance document will be produced that provides guidance on uncertainty issues in general and summarizes the main sources of error in the calculators.

Products and dates

1. Updated documentation of how uncertainty was derived; August 2011
2. Updates to calculator displaying uncertainty values on summary page; August 2011

Implementation and Staffing

Tim Pearson will coordinate this task. Sandra Brown will oversee the work.

Task 7: Expand upon A/R tool

Currently the A/R calculator allows a user to select from among several plantation species as well as mangroves, bamboo, Acacia, and a "native species" option. The default values for native species are derived from IPCC default growth rates for <20 year old native forests. In Year 5, the species database will be expanded to include sequestration rates for specific tree species commonly planted or in naturally regenerated ecosystems. At a workshop held at Winrock in December 2010, a specific suggestion came from partners to include palm oil as a species option in the A/R tool. These data for will be compiled and synthesized from sources such as major bilateral donors, research institutions and literature review.

The specific steps are:

1. Review data that were used to derive IPCC default sequestration values for native species and increase level of documentation for how default values were derived. Supplement IPCC defaults with data for additional species where possible.

During the re-structuring of the calculator in Task 3 above, A/R default values will be re-visited and the default database will be updated as necessary.

Products and dates

1. Updated documentation of A/R tool including new data sources; August 2011
2. Updates of A/R fully functional and added to the calculator; August 2011

Implementation and Staffing

Felipe Casarim will coordinate this task. Sandra Brown will oversee the work.

Task 8. Host website for another year.

DRG will host the Forest Carbon Calculator website for Year 5 to facilitate the ongoing development and up-dating of the tool.

No progress to report.

Task 9. Develop guidance documents on data collection and processing for Level B data and conduct training seminars

In Year 5 under this task, guidelines and manuals will be prepared that outline minimum standards for generating and applying Level A and Level B data for each tool, as well as suggestions for design of data collection and processing systems such as systematic documentation of project locations and activity attributes in geospatial layers (need improved documentation of location and area of specific activities in AID projects).

The specific steps involved are:

1. Develop web-based training clips to guide users through the calculator functions. For example, a user can click on an icon to watch a video clip that explains what to look for and what to enter in a given Level A or B box. The calculator interface will also be updated to clarify what the minimum requirements of data input are and what users might need to do to generate a better Level B estimate. ***No progress to report.***

2. Conduct three regional trainings on the use of the forest carbon calculator (Africa, Asia, Latin America). These would be two-day carbon estimation and monitoring workshops that present basic concepts of carbon measurement and accounting, walk users through how to use the calculator, and have users fill out the calculator with real data from their projects. ***Preliminary plans are underway to hold the first training session in Lima, Peru. An agenda for the training session is being developed. The second workshop could be held in Washington, DC during USAID's 'Training of Trainers' workshop in May 2011, although the details of this will need to be discussed with Patrick Smith/Evan Notman.***

Products and dates

1. Revised "help me decide" tool and revised on-line training video clips; July 2011
2. Draft manual of minimum standards needed for generating and applying Level B data for each tool; August 2011
3. Conduct three regional training workshops for USAID staff and partners; May-June 2011

Implementation and Staffing

Felipe Casarim will coordinate this task. Sandra Brown will oversee the work.

Task 10. Work with the National Inventory ALU tool developers to harmonize approaches.

The National Inventory ALU tool was funded by both EPA and USAID and functions as a calculator for national-scale carbon accounting (for national GHG inventories). Winrock will work with the developers of this tool to ensure that underlying equations and default data are consistent when both tools operate at a national scale.

The specific steps will include a meeting with the ALU developers to discuss the potential of nesting project- and subnational data generated by the Forest Carbon Calculator into a national inventory.

Products and dates

1. Consultations with EPA on the potential of nesting project- and subnational data; March 2011, July 2011 ***No progress to report.***
2. An assessment of the potential to integrate the data bases and tools of the Forest Carbon Calculator into the ALU tool; September 2011 ***No progress to report.***

Implementation and Staffing

Sandra Brown will lead this effort.

Task 11: Production of progress reports

The progress reports will be produced on the following schedule:

- Progress report 1 — February 2011
- Progress report 2 — May 2011
- Progress report 3 — August 2011
- Final report — October, 2011

3. Estimated Timeline

Task	Activity	2011									
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	Develop detailed workplan										
2	Add features to existing calculator										
3	Multiple identical project types entered into same admin unit										
4	Project planning tool										
5	Agricultural and grazing land management calculators										
6	Add uncertainty values										
7	Expand upon A/R tool										
8	Host website for another year										
9	Guidance docs and training seminars										
10	Harmonization with ALU tool										
11	Progress reports										

4.0 Budget

		Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Task 9	Task 10	Task 11	
		Workplan	Add features to existing calculator	2 projects per admin	Project planning tool	Ag and grazing mgmt tools	Uncertainty	Expand upon A/R tool	Host website for another	Guidance docs/training	ALU	Progress Reports	
													COST
LINE ITEMS													$
SALARIES		547	3,815	547	8,261	8,079	5,728	4,145		11,722	2,656	2,273	47,774
FRINGE BENEFITS		262	1,827	262	3,955	3,868	2,742	1,985		5,612	1,272	1,088	22,874
TRAVEL & PER DIEM										23,388			23,388
OTHER DIRECT COSTS			400		640	400		400					1,840
TOTAL DIRECT COSTS		810	6,042	810	12,857	12,348	8,470	6,530		40,722	3,927	3,361	95,876
TOTAL SUBCONTRACTOR COSTS			12,000	15,074	20,000	12,000	2,500	2,500	6,000				70,074
INDIRECT COSTS	FED RATES:												
A. Overhead	65.28%	528	3,683	528	7,975	7,800	5,529	4,002		11,316	2,564	2,194	46,119
B. General & Administrative	9.87%	80	596	80	1,269	1,219	836	644		4,019	388	332	9,463
C. Subcontractor Management Fee	5.58%		670	841	1,116	670	140	140	335				3,910
TOTAL INDIRECT COSTS		608	4,949	1,450	10,360	9,688	6,505	4,786	335	15,335	2,951	2,526	59,492
TOTAL ESTIMATED COSTS		1,418	22,990	17,333	43,216	34,036	17,475	13,815	6,335	56,058	6,879	5,887	225,442