



USAID
FROM THE AMERICAN PEOPLE



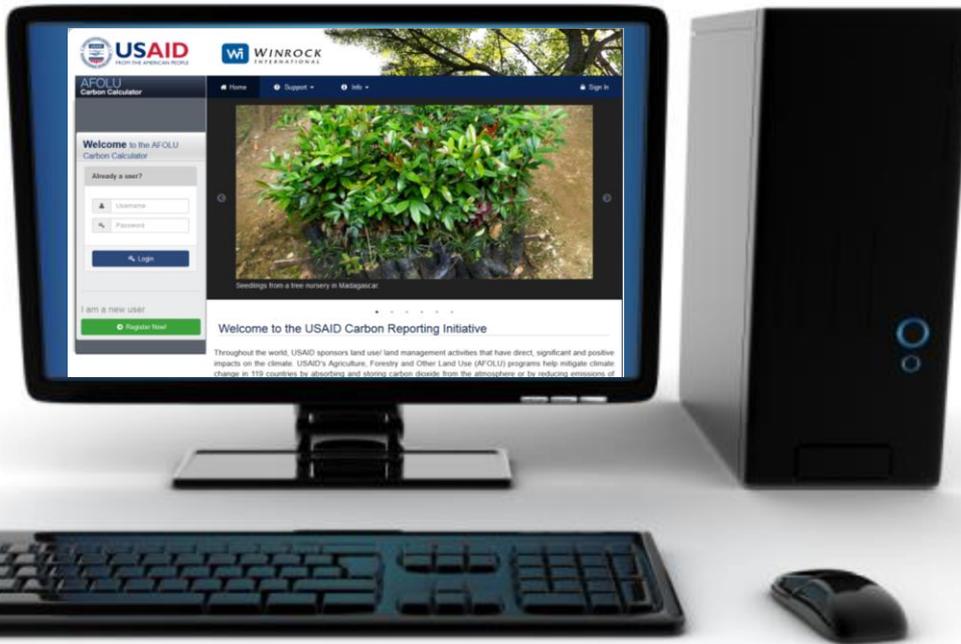
WINROCK
INTERNATIONAL

HOW TO USE THE AFOLU CARBON CALCULATOR

2014

FELIPE CASARIM AND LARA MURRAY
WINROCK INTERNATIONAL

IT'S TIME TO REPORT FOR FY 2014! WHERE TO START?



CO₂



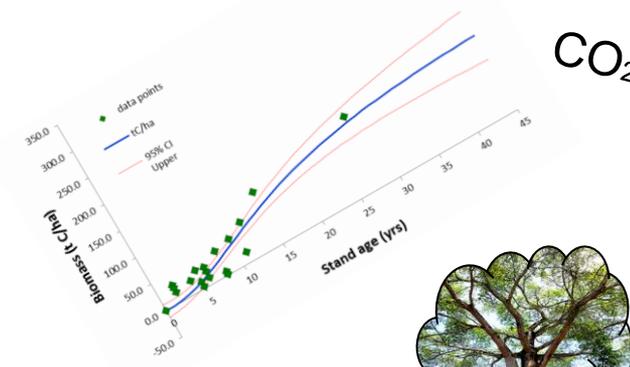
CH₄

N₂O

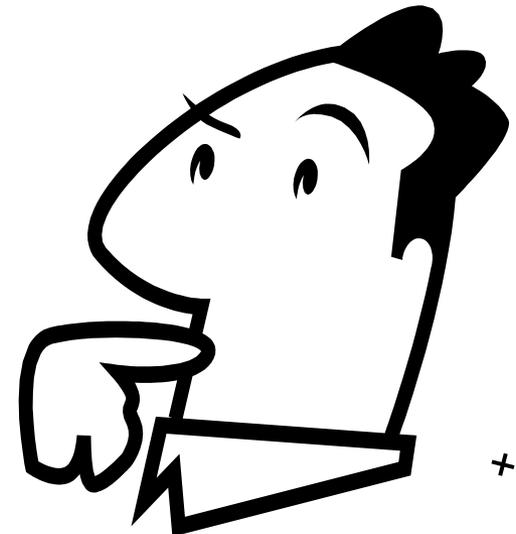
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N₂O



CO₂



CH₄

+

HOW TO USE THE CALCULATOR

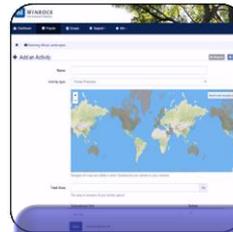
FIVE EASY STEPS



1. Register and Log in



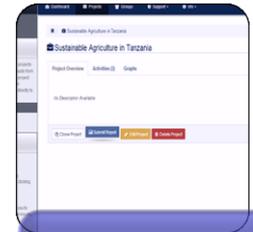
2. Add a project



3. Add activity(ies)



4. Review results



5. Submit report

1. REGISTER AND LOG IN WWW.AFOLUCARBON.ORG

By registering, your unique profile is created, allowing you to save and store your work as well as report results to USAID.

The screenshot displays the AFOLU Carbon Calculator website interface. At the top, the USAID logo (United States Agency for International Development) and the Winrock International logo are visible. The navigation bar includes 'Home', 'Support', 'Info', and 'Sign In' options. The main content area features a large image of tree seedlings in Madagascar, with the caption 'Seedlings from a tree nursery in Madagascar.' Below this, a 'Welcome to the USAID Carbon Calculator' message is partially visible. A sidebar on the left contains a 'Welcome to the AFOLU Carbon Calculator' message, a login form for existing users, and a 'Register Now!' button for new users. A red arrow points from the 'Register Now!' button to a detailed view of the registration form, which includes fields for Username, First name, Last name, Email address, Password, and Password (again), along with a 'Save' button.

Throughout the world, USAID sponsors land use/ land management activities that have direct, significant and positive impacts on the climate. USAID's Agriculture, Forestry and Other Land Use (AFOLU) programs help mitigate climate change in 119 countries by absorbing and storing carbon dioxide from the atmosphere or by reducing emissions of carbon dioxide to the atmosphere. The impacts of these activities are real, but until now projects have not had the ability or tools to translate these impacts into reportable, quantifiable measures of carbon benefits.

THE DASHBOARD

The screenshot displays the AFOLU Carbon Calculator dashboard. At the top left are the USAID and Winrock International logos. The main navigation bar includes links for Dashboard, Projects, Groups, Support, and Info. The left sidebar contains a 'Welcome' message, a 'Where do I start?' section with a 4-step guide, and a 'Take a tour' section. The main content area is titled 'Dashboard' and features a 'Projects' section with a list of five active projects, each with a 'View' button. Below this is a 'Reported Projects' section showing zero reports. On the right, there are 'My Account' and 'My Groups' sections. The account section shows the user's name 'Lara Murray' and contact information. The groups section shows a group named 'TestL' with one member.

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AFOLU Carbon Calculator

Dashboard | Projects | Groups | Support | Info

Dashboard

Welcome to the AFOLU Carbon Calculator

The AFOLU Carbon Calculator provides set of tools to estimate the CO₂ impacts of a broad range of agriculture and forestry-related activities worldwide using basic user inputs. The AFOLU Carbon Calculator also stores project information and produces a downloadable final project report that can be submitted directly to USAID.

Where do I start?

Basic steps:

1. Create or edit a project
2. Add or edit project activities
3. Review results
4. If reporting to USAID, submit report

Take a tour

To learn more about the features on this page, click the "Show Me Around" button below to begin a tour. You may exit the tour at any time by pressing the silver button labeled "Skip" or by leaving the page.

Projects

- Climate-Friendly Agriculture in Albania**
No Group Information [View](#)
- Sustainable Livelihoods and Climate in the Philippines**
No Group Information [View](#)
- Sustainable Agriculture and Communities in Pakistan**
No Group Information [View](#)
- Restoring African Landscapes**
No Group Information [View](#)
- Sustainable Agriculture in Tanzania**
No Group Information [View](#)

9 [+ New Project](#) [My Projects](#)

Reported Projects

You have no completed reports.

0 [My Reports](#)

My Account

Lara Murray Imurray [Edit](#)

- No country given
- No address given
- No Telephone

My Groups

TestL [Edit](#)

1 [My Groups](#)

SUPPORT FEATURES

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AFOLU Carbon Calculator

Dashboard Projects Groups **Support** Info

Forum
Manual
FAQ

Dashboard

Projects

- Climate-Friendly Agriculture in Albania [View](#)
- Sustainable Livelihoods and Climate in the Philippines [View](#)
- Sustainable Agriculture and Communities in Pakistan [View](#)
- Restoring African Landscapes [View](#)
- Sustainable Agriculture in Tanzania [View](#)

9 [New Project](#) [My Projects](#)

Reported Projects

You have no completed reports.

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Lara Murray Imurray [Edit](#)

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My Groups

TestL [Edit](#)

1 [My Groups](#)

Where do I start?

Basic steps:

- Create or edit a project
- Add or edit project activities
- Review results
- If reporting to USAID, submit report

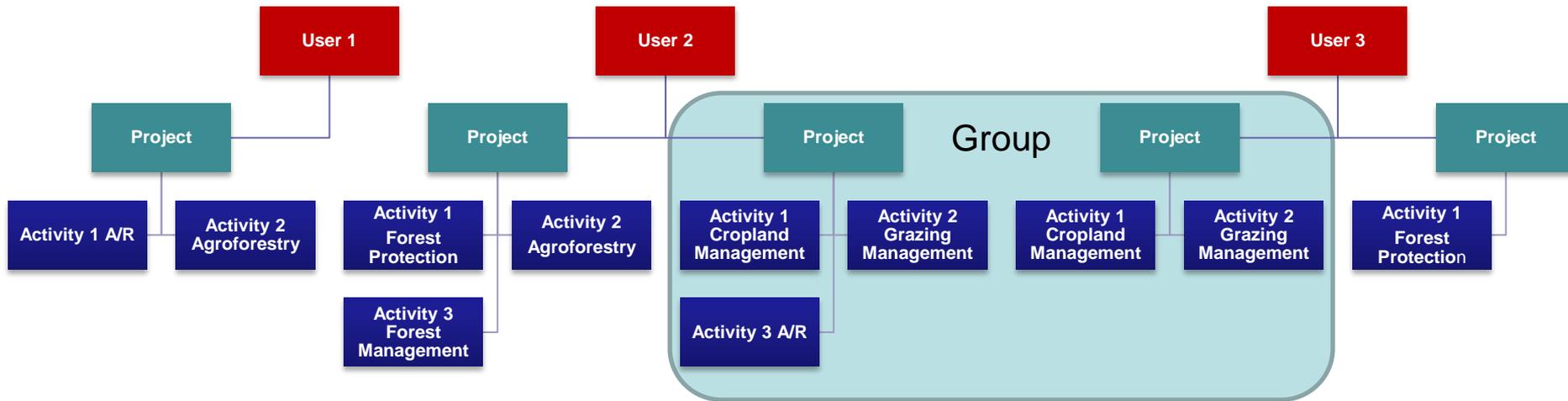
Take a tour

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[Show Me Around](#)

help@afolucarbon.org Coming soon: **Video tutorials!**

CALCULATOR ORGANIZATIONAL STRUCTURE



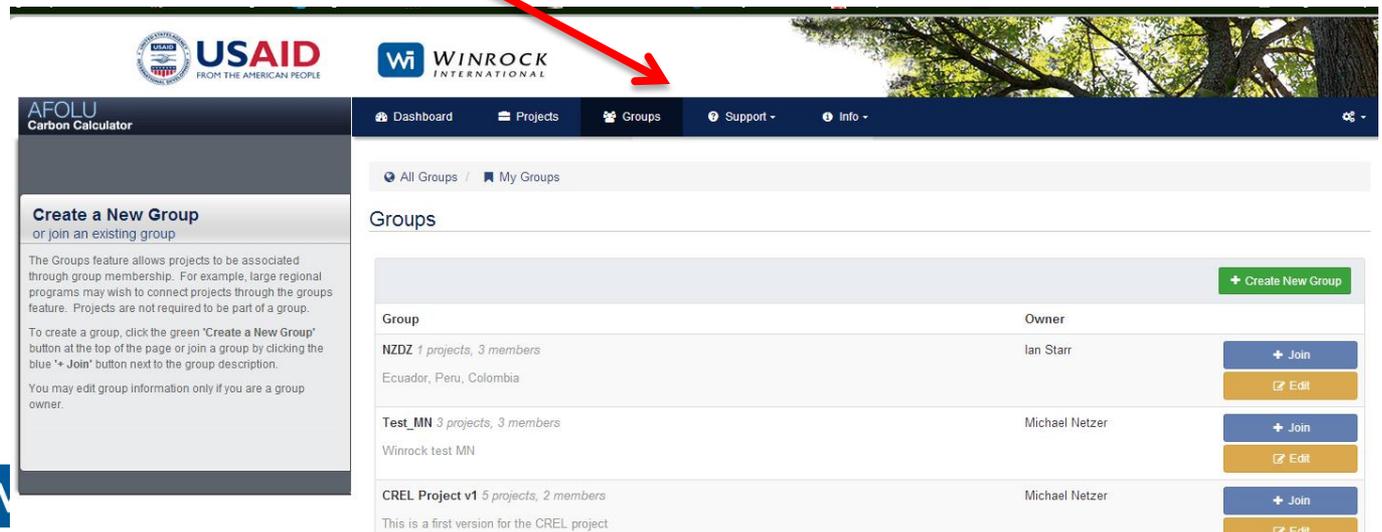
GROUPS

Allows users to share projects with other group members, so projects can be viewed and edited collectively.

The groups feature is **optional**, but may be useful in cases where multiple projects are connected under a larger program or various users.

e.g. Wildlife Conservation Society and Okapi Conservation Project could share their project info on the Okapi Wildlife Preserve with CARPE M&E personnel through the groups feature.

You can request to join or create a group at any time by going to the 'Groups' tab.



The screenshot shows the Winrock International web application interface. At the top, there are logos for USAID and Winrock International. Below the logos is a navigation bar with tabs for Dashboard, Projects, Groups, Support, and Info. A red arrow points to the 'Groups' tab. The main content area is titled 'Groups' and includes a sidebar on the left with the heading 'Create a New Group or join an existing group'. The sidebar contains text explaining the Groups feature and instructions on how to create or join a group. The main content area displays a table of existing groups with columns for Group, Owner, and actions (Join and Edit).

Group	Owner	
NZDZ 1 projects, 3 members Ecuador, Peru, Colombia	Ian Starr	+ Join Edit
Test_MN 3 projects, 3 members Winrock test MN	Michael Netzer	+ Join Edit
CREL Project v1 5 projects, 2 members This is a first version for the CREL project	Michael Netzer	+ Join Edit

2. ADD A PROJECT

ADD A PROJECT

- ✓ Name
- ✓ Reporting to USAID?
- ✓ Reporting year (fiscal year)
- ✓ Share with a group?
- ✓ Description

The screenshot shows a web application interface for creating a new project. At the top, there is a dark blue navigation bar with links for 'Dashboard', 'Projects', 'Groups', 'Support', and 'Info'. Below this is a light gray header with 'My Projects'. The main content area is titled 'Welcome, Create A New Project'. The form includes several fields: 'Name' (text input), 'Is this project reporting to USAID?' (dropdown menu with 'Unknown' selected), 'Reporting year' (dropdown menu with '2014' selected), 'Group' (dropdown menu), and 'Description' (text area). A 'Save' button is located at the bottom right of the form. Below the 'Reporting year' dropdown, there is a note: 'If reporting, for which fiscal year is this project being reported?'.

3. ADD ACTIVITY

- Select the type of activity →
 - Forest Protection
 - Agroforestry
 - Cropland Management
 - Afforestation/Reforestation
 - Grazing Land Mgmt.
 - Forest Management
 - Forest degradation by fuelwood
- Select activity location (subnational unit)
- Define the area

+ Add an Activity Reporting ★ Owner

Name

Activity type



Hover over non-grey areas

Navigate the map and click to select Admin unit relevant to your interests.

Total Area Ha

The area in hectares of your activity parcel.

Subnational Unit Delete

Save Add Subnational Unit

3. ADD ACTIVITY - SELECTING A LOCATION

If activity crosses the border of a subnational unit, add another subnational unit.

+ Add an Activity Reporting ★ Owner

Name

Activity type



Navigate the map and click to select Subnational unit relevant to your interests.

Total Area Ha
The area in hectares of your activity parcel.

Subnational Unit Delete

Save Add Subnational Unit

Divide the **Total Area** between subnational units by indicating the **fraction** of the total area in each subnational unit OR enter the area per subnational unit

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

Required inputs

Minimal inputs needed for estimating benefits

e.g.

- Select what type of vegetation (mangroves, forest, peat forests)
- Select what type of protection (deforestation, illegal logging, fire)
- Tillage (low, moderate, high)
- Inputs (low, medium, high, with/without manure)

- Effectiveness rating

Required Inputs

Forest Protection

Name: Intercropping in the Kilimanjaro Highla

Age of project: 10 years
How many years the project has been taking place.

Effectiveness in avoiding deforestation/ illegal logging: 50.0 % [Guide](#)
Click the Guide button to estimate the level of effectiveness the project has achieved

Years until full effectiveness: 15 years
From the project start date (which may be in the past), how many years do you anticipate it will take to reach full effectiveness in terms of reducing logging, deforestation and/or fires?

Vegetation type: Forests Mangrove Forests Peat Forests

Required Inputs

Agroforestry

Name: Intercropping in the Kilimanjaro Highland:

Effective Percent: 100.0 % [Guide](#)
Click the Guide button to estimate the level of effectiveness the project has achieved

Advanced Inputs

Required Inputs

Afforestation/Reforestation

Name: Combating desertification in Malawi

Effective Percent: 90.0 % [Guide](#)
Click the Guide button to estimate the level of effectiveness the project has achieved

Species Type: Choose...
Plantations Tropical Dry Acacia Seyal

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

EFFECTIVENESS RATING

Users are required to assign an Effectiveness Percent for some activities by using Effectiveness Rating Guide:

- Forest Protection
- Forest Management
- Afforestation/Reforestation
- Agroforestry

The screenshot displays the 'Edit Activity' page for 'Intercropping in the Kilimanjaro Highlands'. The 'Effective Percent' field is highlighted with a red dashed oval and contains the value '100.0'. A blue arrow points from this field to the 'Effectiveness Guide' modal window. The modal window contains the following text:

Effectiveness Guide

Are the project's activities best described as large scale/commercial, or small scale/small holder led operations? **Small**

Will smallholders receive technical support/extension and access to inputs? **No**

How are the climate and soil conditions relative to the requirements of the species selected? **Optimal**

Will fertilizers and irrigation be available and be applied where required? **No**

Will the plantation(s) be managed by people who have received adequate training and capacity building? **Yes**

Based on the answers provided, it is estimated that the project will be 50% effective in reducing emissions compared to project that was optimally designed.

The following deductions were made to your total maximum estimated effectiveness:

- A 20% effectiveness deduction has been made because the project does not involve providing smallholders with access to input and technical support. Without this, the trees are not likely to achieve the performance assumed in the model.
- A 20% effectiveness deduction has been made because fertilizers/irrigation are needed, but are not available or are not being applied. This will result in lower growth rates of the trees.
- A 10% effectiveness deduction has been made because the managers of the plantation have received capacity building that enables them to manage the plantations effectively in the long run.

Does the project involve developing fire management in the policies, laws and resource management plans at the country/regional level through capacity building? **Yes**

Are communities, concession holders, local organizations and governments engaged in the fire prevention activities through education, fire prevention work, technical support to fire-friendly agriculture and other appropriate incentives? **Partially**

Will the project use a documented, region specific, fire management plan been developed and implemented for the project area?

Buttons: Back, Yes, No

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

EFFECTIVENESS RATING

Guide asks a series of simple questions with multiple choice answers about the design, management, and implementation status of the activity.

The questions are specific to each type of activity.

The resulting effectiveness rating (a percent) is applied to results for the reporting year, and for each year projected emissions reductions/removals are made.

Example Questions:

Forest Protection:

Will the project conduct monitoring (remote sensing, patrols, community monitoring etc.) to detect and respond to incidents of deforestation/degradation?

Will the project work with local communities that have access to the project area to provide sustainable livelihoods that are not dependent on further deforestation/degradation?

Afforestation/Reforestation:

Does the project involve plantations being managed according to a documented forest management plan including:

- Pest and disease management
- Maintenance of plantings to reduce mortality and/or replanting of dead seedlings
- Irrigation treatment in dry spells (if necessary)

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

Effectiveness Rating attempts to estimate:

1. The extent to which the activity has been fully implemented
2. The extent to which the activity has been designed and implemented relative to key success factors

Indirectly addresses issues related to leakage and non-permanence of emissions reduction.

May also inform the user where improvements to project management and implementation could be made that would result in greater emission reductions/removals.

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

Users may choose to override the resulting Effectiveness Rating and enter their own perceived effectiveness, but a justification must be provided.

The screenshot shows a web application interface with a modal dialog box titled "Effectiveness Override". The dialog box has a close button (X) in the top right corner. It contains a text input field labeled "Justification for overriding" and a percentage input field labeled "Effective Percent" with a "%" symbol to its right. At the bottom of the dialog box are "Cancel" and "Save" buttons. The background shows a dashboard with a sidebar menu including "Dashboard", "Sustainable", and "Edit Intercro". The main content area displays activity details for "Intercropping in the Kilimanjaro Highla" with fields for "Locations" (Tanzania Kilimanjaro), "Total Area" (925.0 ha), "Location" (Edit), and "Total Benefit" (40,191 t CO₂). Below this is a "Required Inputs" section with a "Name" field containing "Intercropping in the Kilimanjaro Highla" and an "Effective Percent" field containing "70" with a "%" symbol and "Guide" and "Override" buttons.

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

Advanced Inputs (OPTIONAL!)

e.g.

- Forest growth rate
- Deforestation rate
- Agroforestry type
- Age of plantation

- Defaults already appear in grey in fields in Advanced Inputs section.

- Defaults are location and activity specific

Advanced Inputs **Forest Protection**

Deforestation

Deforestation Rate Before Intervention %/yr
Deforestation rate before project implementation, expressed as a percentage of forest area lost per year.

Deforestation Rate After Intervention %/yr
Deforestation rate after project implementation, expressed as a percentage of forest area lost per year.

Forest Carbon Stock t C/ha
Average carbon stock in forest above ground and below ground.

Advanced Inputs **Grazing Management**

Activities

- Improved grassland management
- Livestock management
- Rewet Organic Soils

Grassland Management

Soil carbon stock in top 30cm t C/ha
Amount of organic carbon present in soils.

Before project intervention

Advanced Inputs **Agroforestry**

Agroforestry Type
Select the type of agroforestry system. If nothing selected, the default is Tree-Intercropping.

Age of plantation
Age of the trees in the agroforestry system.

Carbon accumulation rate
Amount of aboveground carbon accumulated per year.

Notes

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

- Override defaults by typing your own data or selecting from dropdown menus.
- Data used to override Calculator defaults should be generated using scientifically sound methods or come from reliable, peer-reviewed sources.

To reset defaults, click



at the bottom of the page

Advanced Inputs

Cropland Management

Fertilizer Management

Area ha
Area to which fertilizer is applied.

Before project intervention

Fertilizer type
Select a fertilizer type from the dropdown menu.
If nothing selected, a default is used: Urea

Applied before intervention 0.0 kg/ha/yr
Amount of fertilizer applied before the implementation of improved cropland management activity, expressed in kilograms per hectare per year.

After project intervention

Fertilizer type
Select a fertilizer type from the dropdown menu.
If nothing selected, a default is used: Urea

Applied after intervention 0.0 kg/ha/yr
Amount of fertilizer applied after the implementation of improved cropland management activity, expressed in kilograms per hectare per year.

Rice Management

Area ha
Rice production area, expressed in hectares.

Regime before intervention
Select a management regime from the dropdown menu.
If nothing selected, a default is used: Upland

Regime after intervention
Select a management regime from the dropdown menu.
If nothing selected, a default is used: Upland

Upland
Irrigation Continuous Flooding
Irrigation Intermittent Flooding Single
Irrigation Intermittent Flooding Multiple
Irrigation Rainfed Regular
Irrigation Rainfed Droughtprone
Irrigation Rainfed Deepwater

Soil Carbon Management

Soil carbon stock data 124.54 t C/ha
Amount of organic carbon present in project area soils, expressed in tons of carbon per hectare.

Notes

3. ADD ACTIVITY – ENTERING ACTIVITY INFO

For more information on methods and defaults, click ‘Methods and Sources’ under the Info tab to find downloadable background documentation for each Tool

The screenshot displays the 'Edit Activity' interface for 'Climate-Friendly Rice Cultivation'. The top navigation bar includes 'Dashboard', 'Projects', 'Groups', 'Support', and 'Info'. The 'Info' dropdown menu is open, showing 'Methods & Sources' and 'Contact Information'. The activity details include:

Name	Climate-Friendly Rice Cultivation
Activity Type	Cropland Management
Year	2014
Locations	Philippines South Cotabato Philippines Sultan Kudarat
Total Area	2,300.0 ha
Location	(Edit)
Total Benefit	Required inputs are not complete: Condition

Below the details is a 'Required Inputs' section with a form for 'Name' (Climate-Friendly Rice Cultivation) and 'Tillage' (Before intervention). On the right, a 'PDF Documents' panel lists the following activity types:

- Forest Protection Activity
- Forest Management Activity
- Grazing Activity
- Afforestation/Reforestation Activity
- Cropland Activity

4. REVIEW RESULTS

Average wood density of trees found inside the project area, expressed in tons of dry matter per cubic meter.

SawnwoodFraction

RoundwoodFraction

WoodbasePanelsFraction

PaperboardFraction

Calculated benefit: 27515 t CO₂ ×

Recalculate

Notes

Save Activity Calculate Reset Defaults

Activity Type Agriculture

Year 2014

Locations Peru Cusco

Total Area 480.0 ha

Project Overview

Edit this Activity

Activity benefits are displayed as:

- Yearly for the first 5 years
- Cumulatively up to 5 years
- Cumulatively up to 10 years
- Cumulatively up to 20 years
- Cumulatively up to 30 years

Benefits

Year	Estimated Effectiveness (%)	Total Annual Benefit (t CO ₂)	Cumulative Benefit (t CO ₂)
2014	70	26,227	26,227
2015	70	5,488	31,715
2016	70	4,979	36,694
2017	70	4,501	41,194
2018	70	4,058	45,252
2019	70	3,652	48,904
2020	70	3,282	52,186
2021	70	2,946	55,131
2022	70	2,642	57,773
2023	70	2,367	60,140
2024	70	2,120	62,260
2025	70	1,898	64,158

4. REVIEW RESULTS



Dashboard Projects Groups Support - Info -

Sustainable Agriculture in Tanzania

Sustainable Agriculture in Tanzania

Reporting Owner

Project Overview Activities (3) Graphs

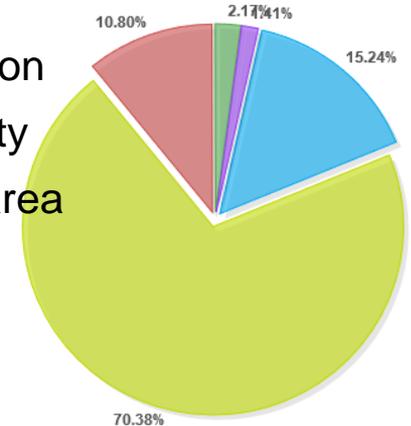
No Description Available

Clone Project Submit Report Edit Project Delete Project

Benefits per location Benefits per activity Benefit per unit area

Graphs

- Per location
- Per activity
- Per unit area



Laos Attapu
Laos Houaphan
Thailand Chiang Mai
Papua New Guinea Madang
Malaysia Sabah

Add more activities

Total Activity Benefits 87,831 (t CO₂)

+ Add Activity

Project Overview Activities (3) Graphs

Activity	Location	Area (ha)	Benefits (t CO ₂)	1-5 Year (t CO ₂)	
Intercropping in the Kilimanjaro Highlands Forest Protection	Tanzania, Kilimanjaro	925	125	907	View
Intercropping in the Kilimanjaro Highlands Agroforestry	Tanzania, Kilimanjaro	925	40,191	72,344	View
Forest Management Forest Management	Mexico, Yucatán	2,100	27,515	137,575	View

Total Activity Benefits 87,831 (t CO₂) + Add Activity

5. REPORTING PROJECT IMPACTS

Sustainable Livelihoods and Climate in the Philippines

Sustainable Livelihoods and Climate in the Philippines

Reporting

Owner

Project Overview Activities (2) Graphs

No Description Available

Clone Project

Submit Report

Edit Project

Delete Project

Preview Report

Please Confirm

Are you sure you want to report this project now?

Reporting your project means you will no longer be able to edit, add and/or remove activities.

Note: If, after reporting you still need to make changes, you can click 'clone' to replicate the project and its activities. You will then be able to edit, add and remove activities in the cloned project.

We can also send notice of your report to any E-Mail recipients:

user1@email.com, user2@email.com

No, take me back Yes, report this project

- Downloadable, printable project reports can be generated as a PDF
- Submit project results directly to USAID

AFOLU Carbon Calculator Project Report

Sustainable Livelihoods and Climate in the Philippines

Submitted by: Lara Murray
September 5, 2014

USAID reporting: No

Project Summary

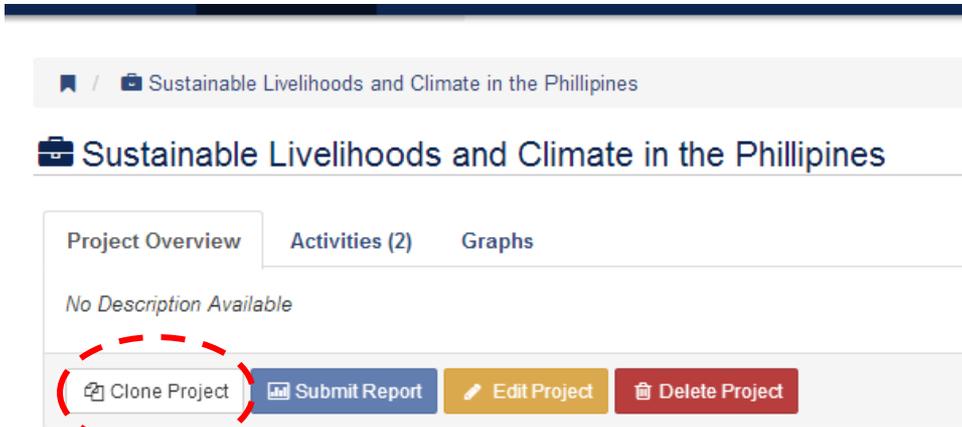
Table 1: Summary of project activities

Name	Location	Type	Area	Benefit t CO ₂	
Climate-Friendly Rice Cultivation	Philippines	South Cotabato Sultan Kudarat	Cropland Management	2,300	0
	Philippines				
Lowering inputs in Philippine farms	Philippines	Abay	Cropland Management	1,235	0
			Total	3,535	0

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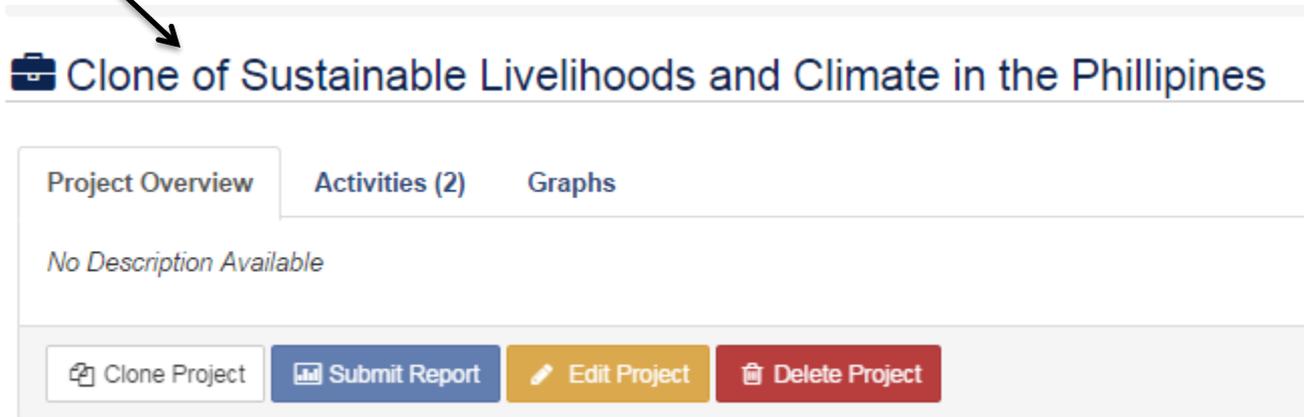
5. REPORTING PROJECT IMPACTS

- If after submitting, alterations are needed, clone the project so that an original version is maintained, and resubmit the altered clone.



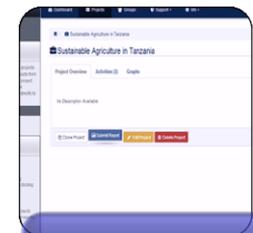
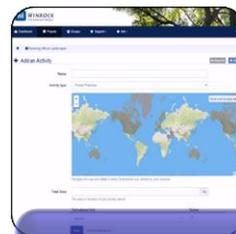
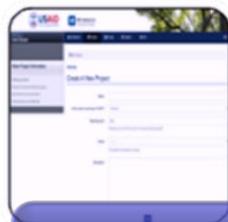
Can use the cloning feature for reporting a project over multiple years. This saves time and ensures consistency among inputs that stay the same over the project's lifetime (e.g. location of activities).

Just edit the name and information of a project's clone and alter the reporting year – e.g. 'Project name, FY 2014', 'Project name, FY 2015'.



REVIEW

FIVE EASY STEPS



1. Register and Log in

2. Add a project

3. Add activity(ies)

4. Review results

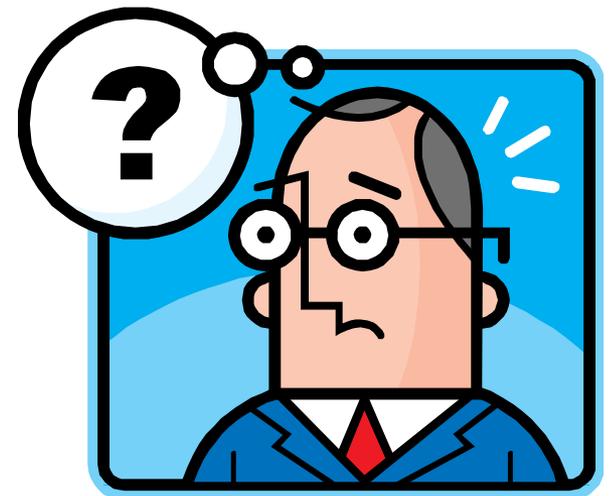
5. Submit report

IF YOU NEED HELP....

- Consult the user manual under the support tab
- Email help@afolucarbon.org

Coming Soon ...

- Video tutorials
- Frequently Asked Questions page (FAQ)



THANK YOU!

For questions and comments:

AFOLU Carbon Calculator: help@afolucarbon.org

Felipe Casarim: fcasarim@winrock.org

Lara Murray: lmurray@winrock.org

Tim Pearson: tpearson@winrock.org

Sandra Brown: sbrown@winrock.org