

Proposal 3784: Agroclimatograms as Public Tools for Education in Climate Change, and its Applic...

Contact Information

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Address:	Steinstr. 19 D-37213 Witzenhausen
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Postal Code:	37213
Country:	Germany
Organization Description:	Given the multiple constraints to crop production in many tropical and subtropical areas, a variety of overseas research projects are conducted to address aspects of soil erosion, competition between agricultural weeds and crops, competition for and mobilisation of nutrients, drought stress and nutrient fluxes in agro-ecosystems.
Year Established:	1971

Project Details

Title of Proposal:	Agroclimatograms as Public Tools for Education in Climate Change, and its Application on Cocoa Crops
Project Duration using DM Funds (number of months, 24 max):	24
Implementation Region:	
Country of Implementation:	Multi-country

Project Details

Sector

Sub-theme: Identify the sub-theme you selected.* (If you want to apply under the Indigenous Peoples sub-theme, click here.)

Climate Risk Management with Multiple Benefits

Attached File:

Proposal Language:

1. English

Primary Partner

Last Name:

Pacheco

First Name:

Alex

Partner Primary Email:

apacheco@earth.ac.cr

Partner Second Email:

Partner Organization Name

EARTH University

Partner Position at Organization:

Lecturer for Agroecology and Natural Resources

Partner Organization Type:

Academia or Research Organization

Partner Organization Website:

http://www.earth.ac.cr/ing/info_general.php

Partner Telephone:

+506- 7130000 x 3305-6113

Partner Fax:

Partner Address:

Guácimo, Limón, Costa Rica

City:

Guácimo

Postal Code:

State/Province:

Country:

Costa Rica

Describe Partner Organization:

A private, international, non-profit university dedicated to education in the agricultural sciences and natural resources in order to contribute to sustainable development in the tropics by seeking a balance between agricultural production and environmental preservation and contributing to the sustainable development of LA & other tropical regions

Year Partner Organization Established:

1986

Partnership Duration (number of years):

0

Project Questions

Question 1. Problem Definition: Clearly describe the specific problem your project is trying to address. Identify the group of people directly affected by the problem in the geographic area(s) in which you plan to work. Explain why solving /alleviating this problem is important for this

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group of people. In other words, this section should answer the question: Immediately after the close of the project, what problem has been addressed / solved for this targeted group?

This is an educational project of general interest, targeting a concrete group: Cocoa farmers of the mesoamerican corridor (MC) of Costa Rica and – in collaboration with the University URACCAN – those of Nicaragua. Cocoa is one of the most valuable crops in CA and organically produced, it fetches very high cash return, since a German chocolate enterprise buys the whole production. At the same time this crop in its organic variety always is produced in very environmental friendly agroforestry systems (AFS), very suitable for the MC, best known like a “hot spot” of biodiversity.

Due to climate change, cocoa needs more protection in AFS, but at the same time the more sunlight possible, a fact producers are not aware.

Agroclimatograms will be developed to sensitize the target group to climate change and to adopt appropriate means of mitigation to climate change in their cocoa plantations.

Question 2. Project Objective / Results: State the project objective. It should be clearly linked to the sub-theme selected. It should focus on the expected results for the primary targeted beneficiary group for which the project reasonably can be held accountable, given the project's duration (24 months or less) and project resources. Explain what the target group will be doing differently after the project that should make the group better off. The project objective should NOT encompass objectives that depend on other efforts outside the scope of the proposed project.

Consult the DM2009 Competition Guidelines to ensure that your idea is clearly linked to the sub-theme that you selected for this project

General Objective:

The project will contribute to the education and sensitisation of the general public on climate change.

Specific Objective:

Cocoa farmers of the project area are aware of possible climate change and are able to deduce appropriate actions.

Results:

- A web site is developed for the general public, providing agroclimatograms of all major world climatological station, using historical and present data, trying to visualize climatic change in a intuitive manner.
- An easy-to-use tool is available for professionals and practitioners of environmental science / agro-forestry, to visualize / analyze:
 - climatic factors for possible climatic changes;
 - climatic requirements of agro-forestry crops;
- The agroforestry crop cocoa is analyzed as an practical example for the ecosystem “Mesoamerican Corridor”.

Question 3. Measuring Results: To the extent possible, provide quantitative information/estimates of the expected results (e.g. 500 beneficiaries, 10% change in incomes, etc.).

An open access web site includes:

- historical and present climatograms of the major 300 climatological stations of the world;
- open source (free software under public licence) graphical software to produce (a) climatograms and (b) climatic crop requirements, by using a simple spread-sheet-like input form;
- historical and present climatograms of all available (approximately 50) climatological stations, relevant to the mesoamerican corridor, part of Nicaragua

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and Costa Rica;

At least 4 cocoa – cooperatives of CR & Nic with at least 100 members are using in an exemplary way this tool. 5 members of each group have been trained on-the-job.

Question 4a. Project Description: What is your project idea to address the stated problem (Question 1)? Describe / list the major components (the concrete steps or major activities) that the project will undertake to meet your objective within a two-year span. Indicate the scope of each major activity. Provide an estimate of the number of people belonging to the targeted beneficiary group that you plan to reach during project implementation.

The discussion about climate (change) usually is quite abstract and its visualization fails to be intuitive to common people. A problem already been addressed by Walter & Lieth in 1960, when published a world atlas of climatograms compiled to a standard layout. In 1992 Füssel enhanced these climatograms by including climatic parameters, very important to the tropics, which is the potential of evapotranspiration and the resulting water budget. Colouring these climatograms appropriate (shades of blue for water, shades of red for heat), comparison of climatological similarities and changes are extremely convenient: they are relatively easy to produce using standard climatological summaries and flexible in interpretation, offering an inspiring and somewhat dynamic approach to the appraisal of climatic conditions and -changes.

On the other hand, modern technology on the www offer an unique opportunity to widespread the standardized production of climatograms, using open access and free software in a way that even complete untrained people in climatology or mathematics, may be able to produce this handy tool.

In case of this project proposal, they are approximately 200 farmers of 4 cooperatives, producing cocoa in the hot spot of biodiversity, the “Corridor Mesoamericano”. Lying in the humid tropics from Mexico to Panama, this also is an important region of tropical rain forests. They will use this tool for adopting their cocoa- agroforestry systems to foreseen climate changes.

Question 4b. Site Description: If the project covers more than one country (multi-country project) please list all of the countries where project activities will be conducted. If known, identify the location of the site(s) project activities will be conducted in the country or countries. . Provide a brief geographic description of the site(s). Identify who owns the land or if landownership is not known or is in dispute. If the project site(s) have not yet been selected / identified, explain the criteria and process that will be used to identify the site(s).

The project will cover the humid tropics of Costa Rica and Nicaragua as part of the “Mesoamerican Corridor”. One cooperative already has been identified, the “Cacao-Nica” of Waslala, Nicaragua. This is the oldest organically producer group and pioneer in this field. Together with them, the University URACCAN of Nicaragua and CATIE of Costa Rica, at least one more cooperative in Nicaragua will be selected and two in Costa Rica.

Selection criteria will be the stage of (1) environmental and (2) socially friendly production systems and (of second importance) the capacity in use of computer and internet- facilities.

Question 5a. Innovation: What specific characteristics of your idea demonstrate that your project is innovative?). If other organizations are addressing the same problem, how is your proposed idea different? If your idea includes a novel technology or process, please describe how it would work in simple terms. For definition of innovation and illustrative examples the DM considers innovative, please refer to Annex 1 of the DM2009 Competition Guidelines and its Annex.

This is a very innovative project, because it will provide a very simple to use tool

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to calculate, analyse and visualize highly complex climatological data; still in a way, useful in technical detail for the trained technicians as well as intuitive for the untrained public.

In other words, technical detail may be directly read from the climatogram with satisfactory accuracy or been taken from the accompanied tables, while the finished colour climatograms offer an direct visual impact to compare historical data sets for climate change.

Question 5b. Type of Innovation: Choose which type best describes the main innovative element of your project.

New product or service

Question 5c: Stage of Innovation In the drop down menu below, choose which stage describes the current state of development of the main innovative element of your project: 1. New untested idea (Idea has yet to be tested; in the case of a new technology, no prototype exists) 2. Early testing stage (Idea has evolved beyond an untested concept / blueprint. For example, a prototype has been developed but not field-tested on a sufficient scale to indicate feasibility of the idea) 3. Proof of concept stage (Idea has been validated in the field, demonstrating its feasibility, but more small scale testing is required under a variety of conditions to test its robustness)

Proof of concept stage

Question 6a. Implementation Capacity of the Organization(s): Describe the strengths of the applicant organization (and if relevant, the partner organization) that it brings to the project, including relevant implementation experience with similar initiatives in the country of implementation or with climate adaptation.

If an applicant is applying with a partner organization, briefly describe in this section the respective roles that you and your partner will have during project implementation. What elements of the partnership contribute to the two organizations' capacities to implement the project? For example, describe the extent to which you and your partner have together already built relevant relationship(s) with the local community and other relevant stakeholder groups.

Question 6b(i): The applicant organization has project implementation experience in the geographic area(s) impacted by the project:

No

Question 6b(ii): The applicant organization has prior experience working directly with the project's targeted beneficiary group.

No

Question 6b(iii): The applicant organization's primary mission is focused on issues of climate adaptation.

No

Question 6c(i): The partner organization has project implementation experience in the geographic area(s) impacted by the project.

Yes

Question 6c(ii): The partner organization has prior experience working directly with the project's targeted beneficiary group.

Yes

Question 6c(iii): The partner organization's primary mission is focused on issues of climate adaptation.

No

Question 7. Sustainability: What actions do you plan to take to help project results continue

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beyond the phase funded by Development Marketplace? What characteristics of your project will help ensure that its results and development impact are sustainable? Describe any major challenges that your project faces to sustain its results. Depending on the nature of the project design, you may want to address financial/economic sustainability and/or organizational sustainability. See DM2009 Competition Guidelines for details.

Question 8. Growth Potential: Describe the potential development impact of the project five years after DM funding ends. Include the potential number of beneficiaries if possible. Describe how your project idea may be replicable elsewhere and/or can be "scaled up" from a local to a regional/national/global level; the characteristics of your project idea that would make it replicable or scalable; and/or possible constraints to scaling up / replicating as well as the opportunities. See DM2009 Competition Guidelines for definitions of replicability and scalability.

Question 9a. Challenges for Implementation: Please note that the information you provide for this question is NOT part of the DM assessment criteria used to select the finalists. It is merely a tool for the DM to identify possible environmental and social safeguard issues with World Bank policies, procedures and practices. In the case that you are selected to be a finalist in the competition and the DM identifies possible safeguard issues based on this information you provide here, the DM would inform you of World Bank good practices for safeguard risk mitigation and management. This would help you ensure that the full proposal you submit as a finalist conforms to World Bank safeguard policies.

Describe any anticipated issues, challenges and/or risks that your project may face during implementation to include both environmental and social issues, challenge/risks. For the social context, identify which, if any, stakeholder groups may feel that their interests are threatened by the project. Examples include, but are not limited to, organizational, structural, project design, conflict area, and climate conditions, etc. Note: Stakeholders are any groups or individuals who have an interest in or can influence the outcome of the project; it always includes targeted beneficiaries, but there can be other stakeholders as well. For the environmental context, this would include any short-term or permanent impacts to the environment.

Question 9b: Will the project include/involve any of the following potential activities, issues and/or impacts?

Question 9b(i): Activity has impact on forests, natural habitats and/or protected areas?

No

Question 9b(ii): Activities that could cause potential damage to historic building(s) or archaeological sites?

No

Question 9b(iii): Activities that include building rehabilitation and/or new construction?

No

Question 9b(iv): Building activities that include use and/or removal of hazardous or toxic materials?

No

Question 9b(v): Agricultural activities that include the use and/or disposal of pesticides?

No

Question 9b(vi): Activities that will include retrofitting and/or building hydro infrastructure / dams?

No

Question 9b(vii): Production activities will / could have effluent and / or discharges into receiving waters?

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No

Question 9b(viii): Activities which include health care clinic that may handle / manage medical waste?

No

Question 9b(ix): Acquisition of land that poses potentially adverse impacts on livelihood incomes, including encroachment on private property, relocation of project affected persons or involuntary resettlement?

No

Question 9b(x): Activities that will include and /or impact Indigenous Peoples?

No

Question 9b(xi): Activities that may potentially take place in disputed areas?

No

Budget Data

1. Works	0
2. Goods (Materials and Equipment)	0
3a. Services: Personnel	0
3b. Services: Consultant Fees	0
3c. Services: Consultant Travel	0
3d. Services: Personnel Travel	0
3e. Services: Other Services	0
4. Operating Costs	0
5a. Other Expenses (explain below)	0
5b. If applicable, please describe "Other Expenses"	
6. TOTAL EXPENSES (Calculated Automatically)	
7a. Amount of Co-financing	0
7b. Sources of Co-financing	
8a. TOTAL DM FUNDING REQUESTED(Calculated Automatically)	
8b. Please enter comments or explanations regarding project costs	