



RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security



AARHUS
UNIVERSITY
DEPARTMENT OF AGROECOLOGY

Climate, Food and Farming Research Network Call for Proposals, 2014

Grants to support scientific training of PhD students from developing countries

Call for proposals

The Climate Food and Farming (CLIFF) Research Network invite applications from students from developing countries¹, currently enrolled in PhD programs for short-term (3-4 month) scientific training and research stays at CGIAR research centers. Applicants should have a background in agriculture and climate change research and an interest in mitigation of greenhouse gas emissions from agriculture. We especially seek students with experience with crop-livestock systems.

Selected students will be sponsored for short-term (3-4 month) scientific training and research stays at CGIAR centers in their home regions, or affiliated research institutions². During their tenure at the host institutions, students will learn approaches used in the Standard Assessment of Mitigation Potential and Livelihoods in Smallholder Systems (SAMPLES) research program to evaluate options for reducing greenhouse gas emissions from smallholder systems and the changes in productivity and livelihood indicators associated with alternative practices.

The techniques that may be studied include (but are not limited to) remote sensing, economic surveys, and measurement of greenhouse gas emissions. Topics will depend on the student's and host institution scientists' interests. Applications are invited for training and travel grants of **up to 10,000 USD**. The grants will be used to support living and research costs at the host institution.

¹ Includes all countries NOT listed as "high income economies" by the World Bank
<http://data.worldbank.org/about/country-and-lending-groups>

² Scientific stays to non-CGIAR centers will be considered if justified.

It is important to note that these grants will not necessarily be to support participants' own research, but to facilitate training on techniques and methods being applied in CCAFS research.

Background

The Climate Food and Farming (CLIFF) Research Network is a collaborative initiative of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) and the Universities of Copenhagen and Aarhus. The Network aims to build the capacity of young scientists, generate novel climate change research on smallholder farming systems, and facilitate South-South knowledge exchange. Each year, starting in 2011, CLIFF has provided small grants to support PhD research and training on topics related to SAMPLES, which is also a program of CCAFS.

The SAMPLES program

SAMPLES is a global research program that investigates the impact of smallholder agriculture on the climate. Currently, virtually no data are available on greenhouse gas emissions and removals from smallholder production systems. The dearth of information constrains the transition to low emissions agricultural development. SAMPLES aims to generate robust and comparable data on greenhouse gas emissions and livelihood indicators for smallholder farming systems. SAMPLES is a program of the CGIAR Research Program on [Climate Change, Agriculture and Food Security](#). Activities within the SAMPLES program are carried out by a network of researchers at [several CGIAR centers](#).

Application requirements

The application must include the following documents merged into one pdf file:

- 1-2 page motivation letter (described below).
- 1-page curriculum vitae that includes your contact details.
- Letter of support from your university supervisor
- All applications must be in English.

The motivation letter, which must be **no more than two A4 pages**, must include the following:

1. Your name, citizenship and the country where you are conducting your graduate study
2. The objectives of your graduate study.
3. Linkages between your study and the SAMPLES program.
4. Any other relevant research experience.
5. Justification for the short-term scientific visit. How will scientific training with the SAMPLES program improve your graduate research?

Eligibility and conditions

- Applicants must be currently enrolled PhD students.
- Applicants must be students from and conducting their research in a developing country³.
- The grant money should be used to finance the short-term scientific visit, **NOT** tuition or other fees related to the degree.
- Scientific visits must take place during 2015.

Submission

Applications must be submitted on or before the 30th of September 2014. To submit your application and for any questions please contact the coordinator of the CLIFF network, Tanka Kandel, Department of Agroecology, Aarhus University,
Email: Tanka.Kandel@agrsci.dk

Notification

Successful applicants will be notified by email in November of 2014 and will be invited to attend a CLIFF-funded workshop in early 2015.

Other activities

Grant recipients automatically become members of the CLIFF network, which provides networking and collaborative opportunities with fellow students and leading experts.

More information

About CCAFS: ccaafs.cgiar.org

About SAMPLES, a CCAFS program: www.samples.ccaafs.cgiar.org

About the CLIFF network, also a program of CCAFS: <http://ccaafs.cgiar.org/climate-food-and-farming-network>.

Please visit these websites before preparing your application.

Potential host centers and topics

The following CGIAR centers have indicated their willingness to host students to collaborate on the described research projects, all of which are related to SAMPLES. If you have previous experience or interests related to one of the projects described below, please indicate this in your motivation letter.

1. **Region:** East Africa

Research locations: Kenya, Uganda, or Tanzania

CGIAR host center: International Livestock Research Institute (ILRI) Center for International Forestry Research (CIFOR), or World Agroforestry Center (ICRAF)

Topic: Combining mitigation potential from the livestock sector with LED pathways

Emissions from livestock production systems dominate the greenhouse gas budgets of East Africa. Gaps and uncertainties in our knowledge - of emission rates, mitigation opportunities, incentives to change practice, and institutions that enable adoption - slow down the transition toward low emissions

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development in the livestock sector, the best opportunity for mitigation in the region. This project integrates social and biophysical research, including surveys, ethnography, spatial and mechanistic modeling, and targeted GHG measurements, to co-define with stakeholders landscape mitigation leverage points, supportive social constructs, and national priorities in order to inform ongoing climate change policy processes in Uganda, Tanzania, and Kenya.

2. **Region:** Latin America

Research locations: Costa Rica or Colombia

CGIAR host centers: International Center for Tropical Agriculture (CIAT) or World Agroforestry Centre (ICRAF)

Topic: Supporting low emissions development planning for the cattle sector through best-fit mitigation options and informed policy

The aim of this research is to explore mitigation options and approaches for producing more milk and meat and reducing greenhouse gas (GHG) emission intensities between 15% to 30% for milk, beef, and dual purpose systems mostly via decreased enteric fermentation and increased soil carbon accumulation from pastures.

A combination of GHG measurement approaches (poly tunnels/GASMET/in vitro) and established empirical relationships based on feed intake and proxies for GHG emissions will be used. This approach will contribute towards development of cost-effective methods for measurement that support evaluation of mitigation options and identification of incentives for adoption of practices in the cattle sector.

3. **Region:** Southeast Asia

Research location: Viet Nam

CGIAR host center: International Livestock Research Institute (ILRI) Center for International Forestry Research (CIFOR), WorldFish, or International Rice Research Institute (IRRI)

Topic: Identification and implementation support of mitigation priorities and opportunities in rice-dominated landscapes

Policy makers need precise information for prioritizing mitigation interventions. While there have been several attempts to estimate greenhouse gas emissions from Vietnamese agriculture, this project will use state-of-the-art models in combination with new spatial and temporal information derived from other projects. This will include an analysis of hotspots of emissions, with different emission sources (lowland and upland production systems, livestock systems) and potential sinks (afforestation of degraded land) as well as spatially explicit evaluation of mitigation options. Methods used in this project will include primarily spatial analysis and modeling, not field measurements. Students interested in working on this project will ideally have some experience with computer modeling.

4. **Region:** South Asia

Research location: India

CGIAR host center: International Maize and Wheat Improvement Center (CIMMYT)

Topic: Quantification of GHG emission in contrasting tillage, residue and nutrient management scenarios in wheat and rice-based cropping systems

This project continues GHG measurements in long-term trials of wheat- and rice-based cropping systems under a range of crop establishment, cropping sequence, residue management and nutrient management regimes and in different agro-ecological conditions in the Indo-Gangetic plain.

5. **Region:** Southeast Asia

Research location: Philippines, Viet Nam, Lao PDR, or Cambodia

CGIAR host center: International Rice Research Institute (IRRI)

Topic: Mitigation strategies in rice production

Alternate-Wetting-and-Drying (AWD) is a rice management strategy that reduces water use

and greenhouse gas emissions. It has great potential as a mitigation strategy with co-benefits for crop performance, but uptake has been slow. This project will address the problem of slow uptake of AWD and other mitigation options by providing a comprehensive methodology for assessing and strengthening co-benefits of mitigation.

Questions to be addressed include:

- How do the gendered patterns of interaction and degree of integration of women into decision making influence collective action to adopt mitigation technology?
- What is the economic input/output ratio of different mitigation options (incl. labor) and how could these practices be made more profitable and socially acceptable?
- Given that water savings may not always be an incentive *per se*, what other features of improved irrigation techniques can render the buy-in required for farmers' adoption?