**GRA Croplands Research Group Meeting**

**9-10 December 2020 (virtual)**

**CLIFF-GRADS Presentations**

**Questions for host** (Upendra Sainju, USDA-ARS, Sidney, MT, USA)

* What motivated you to apply to the CLIFF-GRADS Initiative?

Expand collaboration with international students, increase networking, enhance mentoring, and develop future projects on GHG emissions.

* How is your CLIFF-GRADS student contributing to your research program?

The student eased the manpower deficit in the collection of greenhouse gas samples and analysis as this is a labor-intensive work. The CLIFF-GRAD program enhanced the research capacity of USDA-ARS by enhancing collaboration and contacts. The student helped in enhancing my research program by collecting soil, plant gas samples in the field, analyzing them in the laboratory, gaining valuable experience in enhancing his/her career, presenting papers in the meeting, and publishing in the journals.

* What broader positive impacts have come from hosting a CLIFF-GRADS student?

1. Enhanced networking and mentoring
2. Increased collaboration in future projects
3. Expanded research capacity of the institution
4. Increased contacts with international scientists and students
5. Met USDA’s goal of increasing diversity and culture in agricultural research

* What suggestions would you make to other scientists interested in applying to the CLIFF-GRADS Initiative?

It is a wonderful program to increase international collaboration, enhance mentoring, increase research capacity of the host institution, provide necessary labor in the field and lab work, and increase the number of journal publications.

**Questions for student** (Sikiru Yusuf Alasinrin, Federal University of Agriculture, Abeokuta, Nigeria)

* What motivated you to apply to the CLIFF-GRADS Initiative?

The training program by CLIFF-GRADS is apt and much related to my PhD research work and it will increase my understanding of the discoveries regarding greenhouse gas, cutting edge technologies in mitigation and adaptation of greenhouse gases and further expose me to the practical methods of greenhouse gas measurement on field. The Laboratory and field practical knowledge will be useful to my research work because of low institutional capacity in my country and lack of specialist in this area of study in my country, Nigeria. Furthermore, to work and collaborate with reputable researcher in the area of my career as a young scientist.

* What is the objective of your project under the CLIFF-GRADS Initiative?

To learn how to measure and quantify GHG emissions and soil C sequestration using various management practices and calculate net GHG emissions using GWP and GHGI where all sources and sinks of CO2 emissions are accounted.

* What new knowledge/skills have you developed as a result of involvement in the initiative?

I learnt how to analyze CO2, N2O and CH4 using gas Chromatography, Using hydraulic probe to take soil samples at various depth from experimental plots which was done manually in my home institute, use of vacuum pump to empty the glass vial. Finally and interestingly, calculation and statistical analysis of net GHG emissions using GWP.

* What broader positive impacts have come about from being a CLIFF-GRADS student?

1. Access to a great scientist for mentoring
2. Papers presentation in the meeting, and publishing in the journals
3. Expose to well-equipped laboratory to work with specialist
4. Explore new alternative way of sequester more Carbon by planting perennial crops
5. Ability to calculate net GHG and pass the knowledge to my students and colleges

* What suggestions would you make to other students interested in applying to the CLIFF-GRADS Initiative?

CLIFF-GRADS is a great opportunity for young scientist from developing countries to learn and contribute their quota towards the adverse effect of climate change on the earth. Therefore, I would like to encourage the future CLIFF-GRADS recipients to work hard and tirelessly to achieve the aims and objectives of the program.